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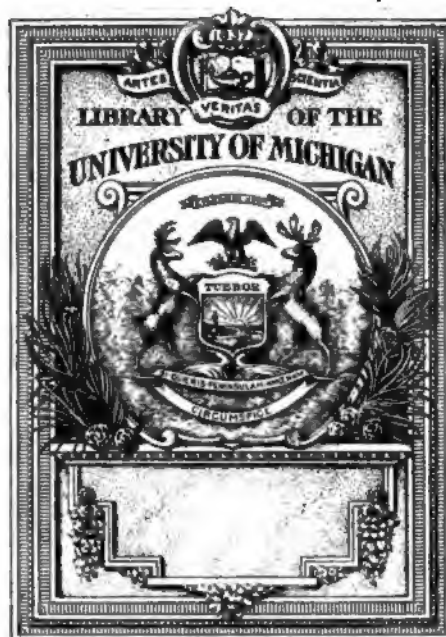
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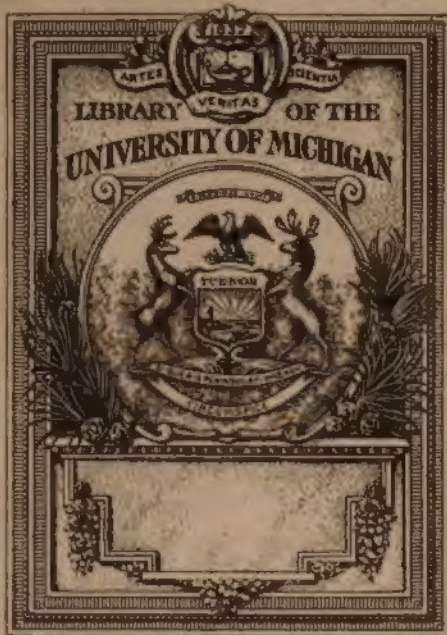
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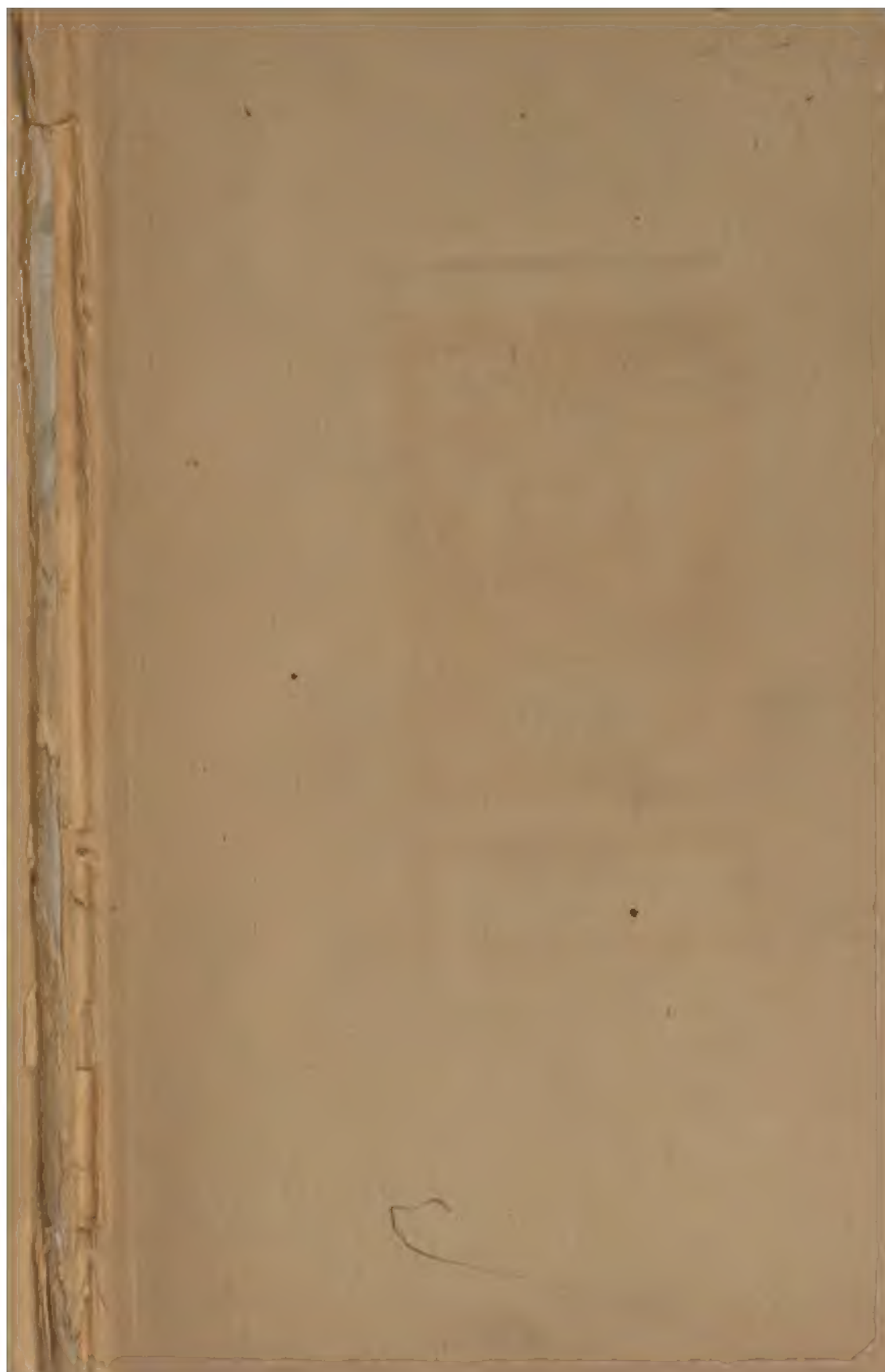
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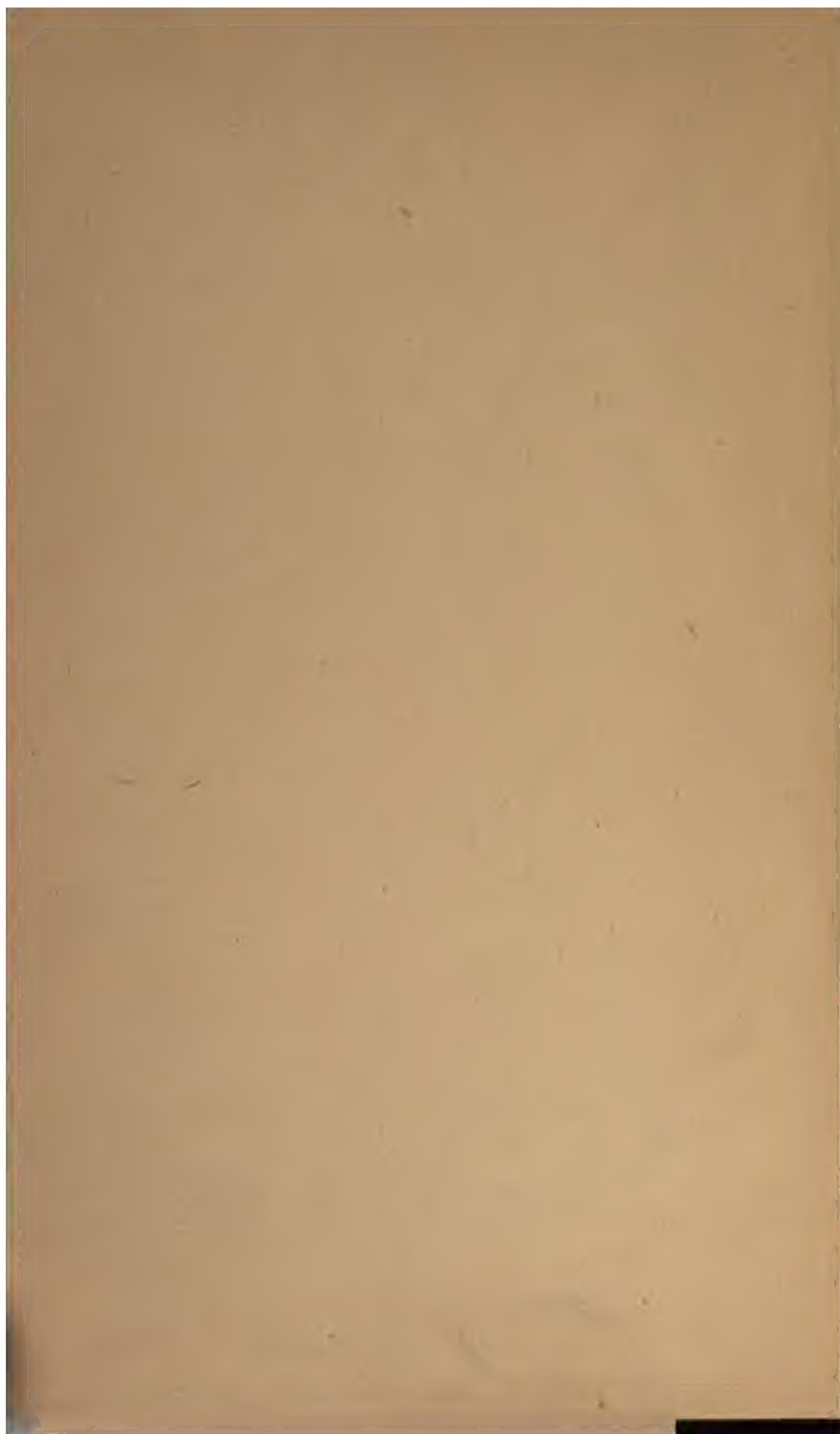


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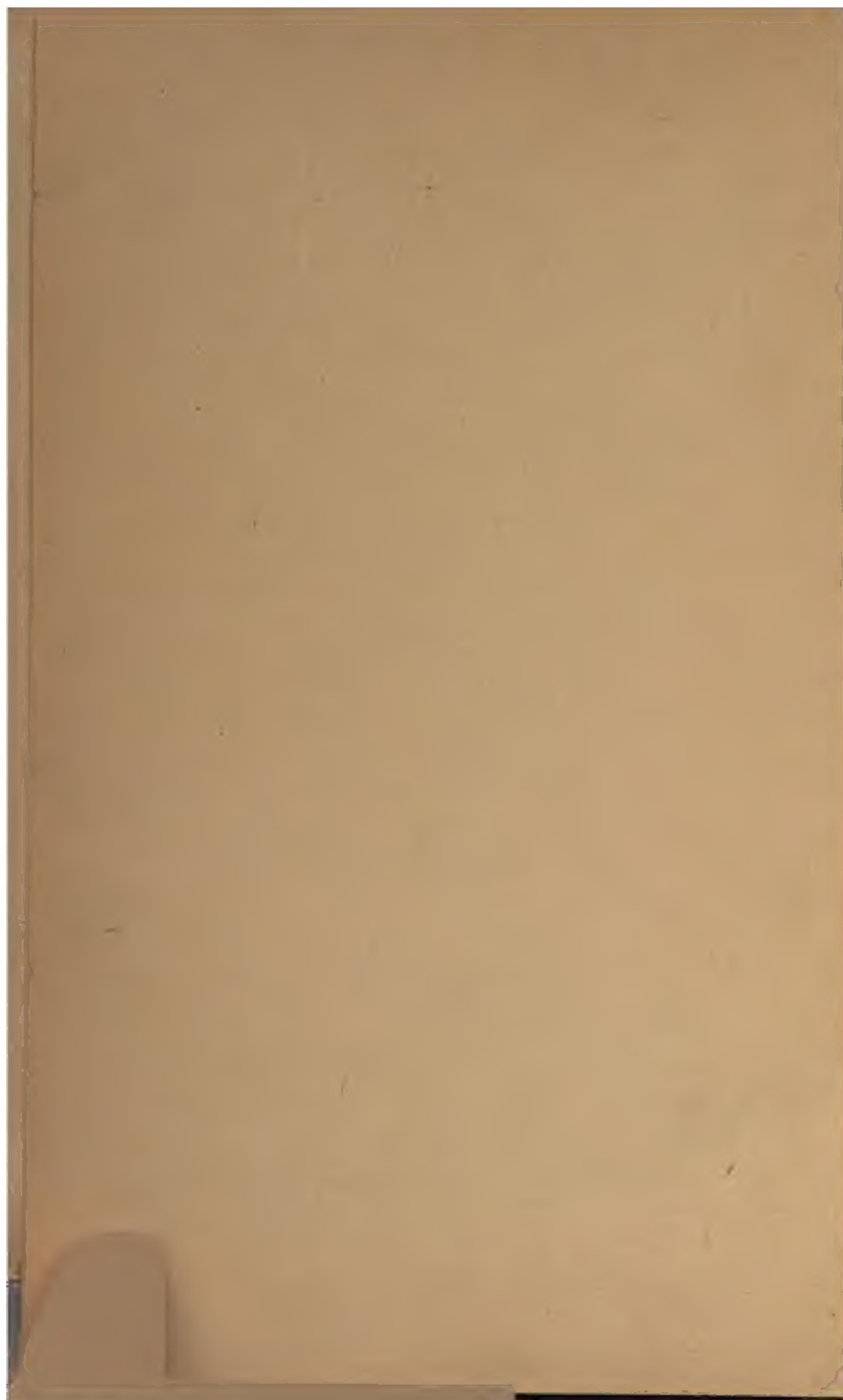


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LELAND STANFORD JUNIOR UNIVERSITY PUBLICATIONS
UNIVERSITY SERIES

THE FISHES
OF THE
Stanford Expedition to Brazil

BY
EDWIN CHAPIN STARKS
ASSISTANT PROFESSOR OF ZOOLOGY

WITH FIFTEEN PLATES

(ISSUED MARCH 17, 1913)

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FISHES FROM BRAZIL COLLECTED BY THE STANFORD EXPEDITION OF 1911

THE following pages contain an account of the fishes collected by the author as a member of the Stanford Expedition to Brazil in the summer of 1911.

Several weeks were spent at Natal, in the State of Rio Grande do Norte, where the rock pools, though containing a rather small fauna, proved to be the most fruitful collecting ground in the vicinity. Seining was done in the harbor and as far up the estuary as Carnahubinha. Two trips were made in a trawling boat, equipped with an otter trawl, that a local company had imported from England, but on account of the great quantities of seaweed that filled and wrecked the nets few fishes were secured. The fish market was extremely poor, and contributed but very little to the collection. Seldom over six or seven of the commonest species were represented at one time, and the prices that they commanded proved the supply to be far short of the demand.

A trip was made to Lake Extremoz, nine or ten miles in a north-westerly direction from Natal. After several trials it was found impossible to do any seining in the lake owing to the great quantities of half disintegrated vegetable matter that is held in suspension in the water, and that quickly filled the net and made it too heavy to land, so that most of the specimens that were taken were secured by fishermen with cast nets.*

In the same direction as Lake Extremoz and about nine miles farther is the town of Ceara Mirim, where several days were profitably spent in collecting in the small creek and in several little muddy ponds that were disconnected from each other, but are doubtless connected during high water. Some seining was done, but more dependence was placed upon the very efficient boys, who waded about with dip-nets and caught fishes under the overhanging muddy banks.

* The fish fauna of Lake Extremoz is made up of the usual fresh water forms of the region and, in addition, many typical salt water ones, such as *Centropomus*, *Mugil* and *Gerres*, showing that the lake has been connected with the sea in recent years, though it is said to be cut off by sand hills at the present time.

Several days were spent at Lake Papary, about twenty-four miles south of Natal. The lake is large and shallow, with marshy banks and muddy estuaries choked with water-hyacinth, so that seining here, too, was impossible. On our account the fishermen were given permission to practice a certain method of destructive fishing that is ordinarily prohibited by law. The fishes were surrounded by a great gill-net, into which canoes were paddled and the fishes taken in extraordinarily large cast-nets or driven into the meshes of the gill-net. By this and the more usual methods of fishing a rather large collection was taken from the lake.

A few days were spent at Fortaleza, in the state of Ceara, with little results from an ichthyological standpoint, and a couple of weeks at Pará, where collecting was confined to the excellent fish-market and a very good collection secured.

Several specimens were taken by Dr. Fred Baker and Mr. W. M. Mann in the Madeira River during a trip taken after the conclusion of the main part of the expedition.

I wish here to especially thank Dr. J. C. Branner, chief of our expedition, not only for the opportunity of making this collection but also to thank him, and my colleagues as well, for much help of various sorts in the making of it. To Dr. Bashford Dean I am indebted for help without which my participation in the expedition would have been impossible. In this small paper it is scarcely possible to attempt to acknowledge much of the assistance that I at various times received, but I can not forbear the pleasure of here thanking Mr. José Joaquim de Carvalhoe e Araujo, whose hospitality and influence made our stay at Papary so pleasant and profitable.

This collection, including the types of the new species, is deposited among the collections of Stanford University. A set of duplicates has been sent to the American Museum in New York.

The accompanying plates, illustrating the new species, are from drawings made by Chloe Lesley Starks.

FAMILY GALEIDÆ.

1. *Carcharhinus platyodon* (Poey).

A specimen 29 inches in length, secured at Pará, seems to be referable to this species. The mouth is twice as broad as it is long and the preoral part of the snout is contained $1\frac{1}{2}$ times in the space transversely between the corners of the mouth. The front of the head is semi-circular in outline. The fins are all more or less concave behind. The pectorals when folded

back almost reach to opposite the posterior end of the dorsal base. The length of the caudal from the pit on the upper part of its base to its tip is equal to the space between the front of the head and the dorsal fin. The second dorsal is a little in front of the anal, and the base slightly exceeds that of the latter in length. The anal is unlike the second dorsal in form, being deeply notched behind with its lobes almost equal, while the dorsal is concave behind, with its inner lobe reaching far behind its outer.

The color is slaty blue above and pure white below. The dorsal and caudal are outlined in black, especially the caudal, which has a broad, black posterior margin. The tips of the other fins are dark.

2. *Hyproprion brevirostris* Poey.

A specimen, a couple of feet long, taken at Pará. Its teeth are not mature enough to note their final character. They are abruptly widened at the base and very slightly serrate. In general proportions of fins and body this specimen agrees very well with current descriptions.

FAMILY SPHYRNIDÆ.

3. *Sphyrna tiburo* (Linnaeus).

A small specimen collected at Natal.

FAMILY RHINOBATIDÆ.

4. *Rhinobatus percellens* (Walbaum).

Two fine specimens were taken in a trawl in deep water by a fishing company at Natal, that has imported a trawler from England.

The greatest width of the disk is equal to the space from the tip of the snout to the middle of the eyes. The preoral part of the snout, from between the teeth, is contained $2\frac{1}{4}$ times in the length to the vent. The front of the vent is midway between the tip of the snout and the base of the caudal. The width of the mouth is contained $2\frac{3}{4}$ in the preoral part of the snout. The lower part of the tail has a projecting flap that is wider than the usual keel. Two papillæ are on the margin of the spiracle; the outer one much the larger. The distance between the dorsals is equal to the width of the tail behind the base of the ventrals.

The ground color is white or light sienna, with round brown spots a little smaller than the eye. Between them are smaller spots, similar in color but less regular in outline. The spots are scattered over the upper parts so closely that the ground color shows only as reticulations. There are

also a few small round, light spots scattered sparsely over the middle of the back. The dark spots are somewhat larger and more conspicuous on the tail and run back on the caudal fin. On one specimen there are two pairs of dark spots on the rostral ridges. The under part of the snout has a black blotch.

FAMILY PRISTIDÆ.

5. *Pristis perrotteti* Valenciennes.

A large "saw," 4 feet in length, was obtained in Natal. It has 18 teeth on each side and is much more tapering than in *Pristis pectinatus*.

6. *Pristis pectinatus* Latham.

One small specimen was taken at Natal.

FAMILY DASYATIDÆ.

7. *Dasyatis gymnura* (Müller).

A specimen taken at Pará.

8. *Dasyatis say* (Le Sueur).

Two specimens with the disk 11 inches in length, caught in a trawl in deep water at Natal, are referred to this species, though there are some discrepancies between them and current descriptions. The disk is no longer than broad, and is nowhere concave. The front of the disk is nearly straight on each side, meeting at an angle at the snout. The greatest width is opposite the gill openings. The caudal is no longer than the disk, and has a broad fold above and below. There are 6 or 7 tubercles on the median line of the back in front of the shoulder girdle, and one some distance behind this, in one of the specimens. A group of 2 or 3 very small spines is on the shoulder. The skin is otherwise perfectly smooth.

The color in one of them in life was light dusky green, growing reddish toward the edges of the disk. Posteriorly it was bordered with dusky and narrowly edged with white. The caudal was white, with the dorsal and ventral folds black. The other specimen is very much darker in alcohol, but the posterior white border of the disk is evident. Both of the specimens have large irregular black blotches below.

9. *Potamotrygon hystrix* (Müller and Henle).

The species of this genus are very much in need of revision. Doctor Eigenmann has included this and the next with several others under one

species (The Freshwater Fishes of British Guiana). Material at hand from Pará represents two distinct forms, which seem to be referable to this and the following species.

Seven specimens were collected in the market at Pará, and one near the mouth of the Madeira River (by Mr. Mann and Dr. Baker). They are from 10 to 20 inches in length, or measuring the length of the disk only, from 5 to 11 inches. In these the preoral part of the snout is contained in the length to the front of the vent from 4 to $4\frac{1}{2}$ times. The width of the mandibular tooth-patch is contained from 13 to $13\frac{1}{2}$ times in the same length. The interspiracular width is contained from $1\frac{1}{3}$ to $1\frac{1}{2}$ times in the length of the snout from the eyes. The teeth are stained brown in all of the large specimens, and usually in the small ones. Counting the longest rows of teeth in the mandible from the outer side obliquely to the median line they number from 12 to 14. The largest papillæ behind the teeth are about 3 times longer than broad, and nearly or quite half as long as the eye.

The color is variable. All of them are light dusky brown with lighter spots scattered over the back of cream or light sienna color. The spots are with blended edges shading into the ground color. Surrounding the spots at some distance from their edges are usually elongate, irregular, black blotches forming more or less regular broken rings of greater diameter than the eye. In one or two of the smaller specimens the rings are nearly complete, but in one they are entirely absent. Usually the black spots forming them are sharp-edged and very definite, but occasionally they are soft and blended. Sometimes they are so separated that they scarcely suggest rings, but run irregularly in various directions. The side of the tail is very distinctly barred with alternate light and dark spots.

10. *Potamotrygon motoro* (Müller and Henle).

Three specimens from 11 to 22 inches in length (or measuring the disk only, from 6 to 12 inches) were collected in the market at Pará.

The preoral part of the snout is longer than in *P. hystrix*, being contained in the length to the front of the vent from $3\frac{1}{3}$ to $3\frac{1}{2}$ times. The width of the mandibular tooth-patch is contained $10\frac{1}{2}$ to 11 times in the same length. The interspiracular width is contained $1\frac{3}{4}$ times in the snout from the eyes. The teeth are not stained brown and the longest rows from the outer side to the middle of the mandibular patch number 19 or 20. The longest papillæ in the mouth are scarcely longer than broad, and do not exceed the length of the pupil. The disk is more thickly set with fine spinules than in *P. hystrix*, so that it is more like ordinary shagreen.

In life the disk is dark brownish drab, growing more drab toward the edges. Scattered everywhere are small orange spots as large as the pupil and sharply defined by rings of color similar to the ground color but of a darker shade. These are more crowded at the middle of the back and at the edges of the disk. On the tail they are less distinct and without much orange color. The side of the tail is mottled rather than barred.

FAMILY ELOPIDÆ.

11. *Elops saurus* Linnaeus.

A common species on the Brazilian Coast. A few specimens were collected in Lake Papary. The elongate, transparent, larval forms of this or *Albula* were frequently taken in the seine.

12. *Tarpon atlanticus* (Cuvier and Valenciennes).

One specimen was obtained at Lake Papary.

FAMILY ALBULIDÆ.

13. *Albula vulpes* (Linnaeus).

A single small specimen from Natal.

FAMILY CLUPEIDÆ.

14. *Sardinella sardina* (Poey).

Specimens obtained in great abundance at Natal are placed here with some doubt. They have a distinct lateral band, which may be due to the action of formalin in destroying the overlying silvery pigment. The scales are thin and entire edged, not lacinate as in *Sardinella macrophthalmus*, which they resemble in form. The scales seem to be, moreover, more firmly adherent than is usual in *S. sardina*. In the lateral band they are very similar to the Pacific Coast species, *S. stolifera*, but the eye is considerably larger.

15. *Opisthonema oglinum* (Le Sueur).

Several specimens were collected at Natal. The variation of the depth is remarkable in this species as it is in the Pacific species, *Opisthonema libertate*. It varies from $2\frac{3}{4}$ to $3\frac{3}{4}$ times in the length to the caudal base.

16. *Ilisha flavipinnis* (Valenciennes).

A few specimens collected in the market at Pará.

17. *Pristigaster cayanus* Cuvier.

A couple of fine specimens were collected by Dr. Baker and Mr. Mann in the Madeira River about 400 miles above its mouth.

FAMILY ENGRAULIDIDÆ.**18. *Anchovia clupeioides* (Swainson).**

Several specimens from 5 to 8 inches in length were taken in Lake Papary. The anal rays vary from 28 to 32 (not counting those in front of the first long one), but are usually 30, as described by Dr. Steindachner. His specimens were from $3\frac{1}{2}$ to 5 inches ("9 to 12 cm.") in length. The smallest specimens at hand agree very well with his description, but the large ones are much deeper, the depth being much greater than the length of the head, and is contained from 3 to $3\frac{3}{5}$ times in the length of the body, while the head is contained from $3\frac{3}{4}$ to 4 times.

19. *Anchovia januaria* (Steindachner).

Specimens that answer very well to the description of this species, which has hitherto been known only from the harbor of Rio Janeiro, were taken in abundance in the harbor of Natal.

20. *Anchovia pallida* Starks, new species.**Plate 1.**

The head and body are deep and compressed. The depth is equal to the length of the head and is contained $3\frac{1}{2}$ times in the length of the body to the caudal base. The snout is shorter than the eye and projects almost its full length beyond the tip of the mandible. The maxillary is broad and rounded behind, and scarcely reaches to the posterior end of the mandible. Small even teeth are present in both jaws. The diameter of the eye is contained $4\frac{1}{4}$ times in the head, and $2\frac{3}{4}$ times in the postorbital part of the head. The interorbital width slightly exceeds the length of the snout. The cheek is long and triangular, and measuring from the eye to the lower angle of the preopercular ridge, its length is twice that of the eye. The greatest width of the opercle is no greater than that of the eye. Forty slender gill-rakers, barely as long as the eye, are on the lower limb of the first gill arch.

The front of the anal is under the middle of the dorsal base, and the front of the dorsal is midway between the base of the caudal and the front margin of the eye. There are 14 dorsal rays, counting 2 rudimentary ones

in front of the first long one, and 21 anal rays with the 2 short anterior ones. The base of the anal slightly exceeds the length of the head. The length of the pectoral is two-thirds that of the head, and it reaches a little past the front of the ventral. There are 37 cross series of scales and 7 longitudinal series, counting under the front of the dorsal.

No color whatever is present in the alcoholic specimen, except a few fine, scattered dark points on the back.

The type and sole specimen is 4 inches in length, and was collected in the market at Pará.

In the shape of the head and body as well as in various other characters this species is very much like *Cetengraulis edentulus*, but there is no trace of membrane connecting the branchiostegal membranes that characterizes the genus *Cetengraulis*. Should future specimens, however, prove it to belong to that genus it may be known from *C. edentulus* by the much shorter operculum as compared with the long oblique cheek, longer maxillaries and pectorals, the anal under the middle of the dorsal base, and several other minor differences. *C. juruensis* differs in the same characters, and in addition is much more slender.

In the genus to which it is here referred it seems to be closest to *Anchovia vaillanti* (Steindachner), but it has twice as many gill-rakers and lacks a lateral stripe.

21. *Anchovia brownii* (Gmelin).

A few specimens seined at Natal from $2\frac{3}{4}$ to $3\frac{3}{4}$ inches in length. It was not taken so commonly as *A. januaria* or *Lycengraulis grossidens*.

These specimens were compared with some from Jamaica and agree in all respects, but they show some discrepancies with current descriptions. The depth is contained from 5 to $5\frac{1}{2}$ times in the length to the caudal base. The eye is contained from $3\frac{3}{4}$ to 4 times in the head; the snout from $4\frac{1}{4}$ to $4\frac{1}{2}$ times. The anal rays, counting back from the first long ray, number 18 or 19. The front of the anal is under the posterior fourth of the dorsal base. The front of the dorsal is midway between the base of the caudal and the front of the eye.

22. *Pterengraulis atherinoides* (Linnaeus).

This species is very common in the market at Pará, where many specimens were secured. In the following notes specimens from 6 to 10 inches in length are considered.

The head is contained from 4 to $4\frac{1}{3}$ times in the length to the base of the caudal; the depth from $3\frac{1}{2}$ to 4 times. The eye is much longer than

the snout and is contained in the head from 5 to $5\frac{1}{2}$ times. The maxillary has a bluntly rounded end which is even with the posterior end of the mandible.

23. *Lycengraulis grossidens* (Ouvier).

A few specimens were seined in the harbor of Natal, the largest $6\frac{1}{2}$ inches in length.

The head is contained from 4 to $4\frac{1}{5}$ times in the length to the caudal base; the depth from $4\frac{1}{2}$ to $4\frac{3}{4}$ times. The eye is longer than the snout and is contained from 2 times in the postorbital part of the head (in specimens $3\frac{1}{2}$ inches long) to $2\frac{1}{2}$ times (in specimens from 5 to 6 inches long). The number of teeth in the mandible is very variable, as might be expected from their uneven size and position. The maxillary teeth are more even in size and smaller. Those on the anterior part of the bone are directed downward or slightly backward, while those on the posterior part are directed slightly forward. The mandible curves upward and is sharp at the tip. The maxillary is slender, slightly widened, lance-head-like, posteriorly, and ends in a slender point just behind the articulation of the mandible. The head is rather broadly rounded behind at the gill cover, and not particularly elongated obliquely.

The insertion of the dorsal is midway between the base of the caudal and a point varying from the middle to the posterior edge of the eye. The front of the anal is under the middle of the dorsal. In the large specimens the pectorals reach to, or nearly to, the ventrals.

The head and particularly an area just behind the upper half of the shoulder girdle is richly supplied with ramifying canals. On the cheek and on an area behind and above the eye the canals form a net-work, inclosing small spots that appear, at first sight, like well separated, imbedded scales.

24. *Lycengraulis batesi* (Günther).

A single specimen, 8 inches long, was collected in the market at Pará.

In this specimen the teeth in the mandible are fewer and a little farther apart than in *Lycengraulis grossidens*, though more were described for the type. Their number is doubtless variable. This species differs in being much more slender, in having the front of the anal only slightly behind that of the dorsal, in having the head shorter as compared with the entire length, and in having the gill-rakers shorter. The last are low on the side of the arch and are about as long as the mandibular teeth, though they are not "like tubercles," as originally described.

FAMILY OSTEOGLOSSIDÆ.

25. *Osteoglossum bicirrhosum* Vandelli.

A specimen was collected in the market at Pará.

FAMILY SYMBRANCHIDÆ.

26. *Symbranchus marmoratus* Bloch.

Numerous specimens were taken at Lake Papary and in the muddy little lagoons about Ceara Mirim.

FAMILY OPHICHTHYIDÆ.

27. *Myrichthys oculatus* (Kaup).

A single specimen was seined in the harbor at Natal.

FAMILY MURÆNIDÆ.

28. *Rabula megalops* Starks, new species.

Plate 2.

The head is contained $2\frac{3}{5}$ times in the trunk to the vent, and 5 times in the entire length. The body is not much compressed, and the head and neck not at all. The depth of the body is a third of the length of the head. The gape does not quite extend to the posterior part of the eye, and is a fourth of the length of the head. The jaws are straight and capable of being completely closed. The teeth are sharp and easily detached. They are biserial in the upper jaw, with a group of enlarged curved teeth in front. There are no teeth on the shaft of the vomer running back between the lateral teeth. In the lower jaw the teeth are uniserial on the side and biserial toward the front. The eye is contained $1\frac{1}{3}$ times in the length of the snout, and 8 times in the head. The snout is broadly rounded as viewed from above. The anterior nostril is in a tube, and the posterior one is in the upper lip, opening downward, and not visible in a side view.

The dorsal fin begins a distance behind the gill opening equal to the length of the snout. The longest rays are toward the posterior end of the dorsal, where their length is contained $2\frac{3}{5}$ times in the length of the head.

The ground color is light, but made almost uniform dull brown by dark points which more or less run together. On the back and side this is scarcely appreciable except with the aid of a lens, appearing to the unaided eye uniform brown, but on the belly the points are better separated,

and also on the tail a few light spots of the ground color show. The fins are uniform dusky brown like the body, but posteriorly they grow slightly darker toward the margin, and are narrowly edged with white.

The type and only specimen is 5 inches in length, and was collected in the rock pools at Natal.

This species differs from *Rabula panamensis* (Steindachner) in having the jaws straight so that the mouth may be closed, and in having the dorsal beginning behind the gill opening.

29. *Lycodontis moringa* (Cuvier).

Several small specimens were taken in the rock pools at Natal. On some of them the dark spots have so run together as to leave none of the usual ground color, or just a trace of it showing as a few indefinite, irregular markings. The light border to the anal and posterior part of the dorsal seems to be constant.

In life this species is sienna yellow, with slaty brown spots scattered irregularly over the head and body. The anal is dusky, and narrowly and sharply edged with milk white. The white border is continued around the caudal and onto the dorsal, where it becomes narrow anteriorly and disappears. The dorsal has a dark border at the edge of the fin anteriorly and next to the white edge posteriorly. The base of the dorsal is spotted like the body.

30. *Lycodontis funebris* (Banzani).

A single specimen a couple of feet in length was taken at Natal. It is uniform in color and shows no longitudinal lines on the fins.

FAMILY CHARACINIDÆ.

31. *Curimatus leucostictus* Eigenmann and Eigenmann.

One specimen was secured by Mr. Mann and Dr. Baker in the Madeira River about 400 miles from its mouth. There are traces of a light longitudinal bar on the posterior part of the side, its upper edge at the lateral line.

32. *Curimatus schomburgki* Günther.

Several specimens collected at Pará are entirely similar to specimens from British Guiana collected by Dr. Eigenmann. It is probable that these should all be referred to *Curimatus cyprinoides* (Linnæus).

The dorsal reaches variably to the adipose dorsal or to as far back as the base of the caudal.

33. *Curimatus elegans* Steindachner.

Numerous specimens were taken at Lake Extremoz, Lake Papary and at Ceara Mirim. The largest ones are almost 6 inches in length. Small ones, $2\frac{1}{2}$ inches long, have a black lateral band which tapers to a point and disappears anteriorly, or it may be continued as a narrow line to the operculum. The dorsal has a black spot at the middle of its base. In the large specimens there is a rather broad diffused dark lateral band most evident posteriorly where it follows the lateral line, and anteriorly arching just above the lateral line. The posterior part of the lateral line has a small black spot above and below the pore on each scale. The dorsal spot may be pale but it is usually evident.

34. *Gasterotomus latior* (Spix).

A specimen, 8 inches in length, was collected by Mr. Mann and Dr. Baker in the Madeira River 400 miles from its mouth.

The head is contained $3\frac{3}{4}$ times in the length to the caudal base, and the depth $2\frac{4}{5}$ times, being considerably deeper than the picture published by Spix (Pisc. Bras. Pl. 41). The front of the dorsal is midway between the tip of the snout and the posterior part of the base of the adipose dorsal. The pectoral is contained $1\frac{3}{4}$ times in the head, and is not so long as the ventral. It does not reach to the ventral, and the ventral reaches a little over half way from its base to the anal. The dorsal contains 11 rays, and the anal 14. The base of the latter is equal to the combined length of the snout and the eye, and the tip of the adipose dorsal is above the base of the last ray. The caudal fin is broken. There are 90 series of scales, all of which are roughly denticulated, but to the touch scarcely feel rough. The ventral median line from the pectorals to the anal is trenchant. The scales scarcely meet on the median line in front of the dorsal, leaving an extremely narrow naked line.

35. *Hemiodus microlepis* Kner.

Four specimens were taken in the Rio Madeira about 400 miles above its mouth by Mr. Mann and Dr. Baker. Mr. Fowler (Proc. Phil. Acad. Sci. 1906, p. 319) found the "Lower lobe of caudal much longer than upper, just the reverse of that indicated by Kner." In the specimens at hand two of them have the upper lobe a trifle longer, one has them about equal, and the other has the lower lobe a little longer. Except that these specimens are considerably more slender (the depth is contained from $4\frac{1}{2}$ to $4\frac{3}{4}$ times in the length) they agree very well with Mr. Fowler's description.

36. *Anisitsia notata* (Schomburgk).

Five specimens were collected at Pará.

37. *Prochilodus migricans* Agassiz.

Several specimens were collected at Pará, and a couple by Dr. Baker and Mr. Mann in the Madeira River. The latter differ in having the stripes, which follow the rows of scales on the back, and the dusky cross bars much more conspicuous. In the Pará specimens these markings are more or less obscure, but usually evident.

38. *Schizodon elongatus* Steindachner.

A specimen taken by Dr. Baker and Mr. Mann in the Rio Madeira about 400 miles from its mouth.

39. *Schizodon fasciatus* (Spix).

A couple of specimens collected by Mr. Mann and Dr. Baker at the mouth of the Madeira River.

40. *Leporinus friderici* (Bloch).

One specimen was taken at Pará.

41. *Leporinus pachyurus* Cuvier and Valenciennes.

A single specimen was found in the market at Pará.

42. *Leporinus affinis* Günther.

A specimen taken at Pará.

43. *Leporinus fasciatus* Bloch.

Several specimens were collected at Pará.

44. *Leporinus maculatus* Müller and Troschel.

One specimen was taken at Lake Extremoz.

45. *Cheirodon insignis* Steindachner.

A few specimens taken in the little ponds about Ceara Mirim. In the male the lower edge of the caudal peduncle is produced and armed with from 7 to 9 spines along its edge. The caudal spot is inconspicuous in the male and the first ray of the anal is longer, making the posterior margin of the fin more concave. There is considerable variation among the females in the concavity of the anal and in the depth.

46. *Astyanax bimaculatus* Linnaeus.

Many specimens were taken at Pará, Lake Extremoz, Lake Papary and Ceara Mirim.

Specimens of 4 inches in length and over from Pará have the caudal spot and lateral band almost entirely absent. British Guiana specimens of all sizes (collected by Dr. Eigenmann) have the spot and band conspicuous. Comparing small specimens the difference is not so great. The anal has 31 or 32 rays, and there are from 30 to 33 series of scales.

The specimens from Lake Extremoz, Lake Papary and Ceara Mirim have the spot and band as in the British Guiana specimens or even darker, and the anal has from 25 to 27 rays. These are perhaps referable to *Astyanax bimaculatus novæ* Eigenmann, though the lateral band is not so definite as in the picture of the original specimen. Among the smaller specimens of from 2 to 2½ inches in length are many variations of the humeral spot. Sometimes it is elongate horizontally; sometimes it is round; sometimes the faint streak extends up and down from it; and sometimes the streak becomes so pronounced that the spot is elongate vertically. The larger specimens do not vary in this respect, the spot being always elongate vertically. There are breeding females among these only 2 inches in length.

In life the Lake Papary specimens were silvery with golden yellow tinges, which were more conspicuous over the faint lateral band. The pectoral and caudal were yellow, the latter much darker, and the anal and ventrals bright red.

I fail to appreciate the naked predorsal line in either these or the British Guiana specimens, though the latter have been referred by Dr. Eigenmann to the genus *Poecilurichthys*, which he differentiates by this character in his key.

47. *Chalcinus angulatus curtus* Garman.

Four specimens were collected by Mr. Mann and Dr. Baker in the Rio Madeira about 400 miles from its mouth. The depth is contained in the length to the caudal from $2\frac{3}{5}$ to $2\frac{6}{7}$ times.

48. *Chalcinus angulatus fuscus* Garman.

A single specimen taken at the mouth of the Rio Madeira by Mr. Mann and Dr. Baker is evidently referable to the subspecies. The back is dark and has longitudinal dusky stripes following the rows of scales. The lips and barbels are dusky, and the latter are as long as the eye. All of the fins are dusky.

49. *Chalcinus rotundus* (Schomburgk).

One specimen was taken by Dr. Baker and Mr. Mann at the mouth of the Rio Madeira. Comparing it with a specimen collected by Dr. Eigenmann at British Guiana it differs only in having no dark pigment anywhere on the fins or body.

50. *Chalcinus elongatus* Günther.

A number of small specimens up to 8 inches in length were taken at Pará. The length of the pectoral is usually equal to half of the distance between the snout and the dorsal, but it varies from this to half of the distance between the snout and the last dorsal ray. It reaches to the middle of the ventral, which reaches half way from its base to the anal. The front of the anal is under the last dorsal ray or a little behind. The pectorals are sometimes colorless or sometimes dark with fine black points. The adipose dorsal is over the last anal ray and coterminous with it, or often the latter projects a trifle farther back.

51. *Plabucus dentatus* Koelreuter.

Three specimens, the largest 6 inches in length, were obtained at Pará. They agree very well with the description published by Dr. Eigenmann (F. W. Fish. of Brit. Guiana, p. 316) except in depth of body. It is there stated to be 3.6 of the length. Günther (Cat. V., p. 343) gives the depth as one-fifth or one-sixth of the total length, including the caudal, and the picture published by Bloch (Ausl. Fische, p. 382) agrees with this. In my specimens the depth is from $4\frac{1}{3}$ to $4\frac{3}{4}$ in the length to the caudal base, or $5\frac{1}{4}$ to $5\frac{3}{5}$ with the caudal. It is possible that Dr. Eigenmann's description should read 4.6 rather than 3.6.

52. *Pygopristis gibbosus* Starks, new species.

Plate 3.

Though this species was found to be one of the most common of the forms related to *Serrasalmo* in the market at Pará it seems to have remained undescribed, for it has been referred to *Pygopristis denticulatus*.

The type of *Pygopristis denticulatus* came from British Guiana, and as the specimen with which I compare this species was collected by Dr. Eigenmann at Lama Stop-off, British Guiana, there is every reason to suppose that it is a representative of that species.

The depth in front of the dorsal is contained in the length $1\frac{1}{2}$ times, or sometimes a trifle less. In *P. denticulatus* it is $1\frac{3}{4}$ times (though Dr. Eigenmann reports 1.66). The outline of the body is much more angu-

lated and the curve from the dorsal to the snout much more pronounced than in the Guiana species, being more convex at the nape and concave above the eyes. The head is contained from $3\frac{1}{2}$ to $3\frac{3}{4}$ times in the length. The eye is contained from $3\frac{1}{2}$ to $3\frac{3}{4}$ times in the head. Five trilobed teeth are at each side of the upper jaw, and 7 at each side of the lower. They are about as distinct, and sharp, and as well developed posteriorly on the mandible as anteriorly, while in *P. denticulatus* they are lower, blunter, and less projecting posteriorly. The mandible is rather slender; its depth in front is less than half of the diameter of the eye, and is contained 3 times in its own length. In the other species the mandible is very heavy, its depth being equal to three-quarters of the eye, or half of its own length.

There are 33 ventral scutes besides a paired one in front of the vent and another behind it, but there are none at the side of the vent as in *P. denticulatus*, where there are four at each side posterior to the median ones. There are 15 or 16 dorsal rays, and 32 or 33 anal rays. In other species there are 19 dorsal rays and 35 anal rays. The distance from the dorsal to the adipose dorsal is scarcely shorter than the base of the dorsal, while in *P. denticulatus* it is not over half as long as the dorsal base. The first anal rays are a little produced beyond the others. The length of the pectoral is contained $1\frac{1}{3}$ times in the head; that of the ventral 2 times. The pectoral reaches to above the ventral base, and the ventral to the last unpaired ventral scute. The scales are larger than in the other species, there being 71 tubes in the lateral line, 82 cross series, and about 32 vertically from the lateral line to the front of the dorsal. The scales are rather uneven and difficult to count crosswise, but the difference in size when the scales above the lateral line are directly compared is very striking between the two species, being much finer in *P. denticulatus*.

The specimen at hand of *P. denticulatus*, and those described by Dr. Eigenmann, are uniform in color, without spots or a dark caudal margin. In alcohol this species is slate-blue above, silvery below and on the side, and the fins yellow at the base. Over the back and upper part of the side are scattered dark blue spots as large as the pupil and smaller. A dusky blotch is just below the anterior part of the lateral line. The caudal is edged with black.

The type is 6 inches in length, and several cotypes are as large and others slightly smaller.

53. *Pygocentrus piraya* (Cuvier).

One small specimen was taken at Pará. The side is closely covered with dusky spots and the posterior edges of the vertical fins are dark.

54. *Serrasalmo spilopleura* Kner.

A fine specimen of this species was taken by Mr. Mann and Dr. Baker at the mouth of the Madeira River.

55. *Metynnis hypsauchen* (Müller and Troschel).

A single small specimen was taken at Pará.

56. *Metynnis maculatus* (Kner).

One specimen was taken at Lake Papary and two at Lake Extremoz. One of the specimens from the last locality has the anal slightly convex and angulated in front, as in the picture accompanying the original description. The other has it more rounded in front and produced at a rounded angle at the anterior third; probably the mark of the male. It also has the spots larger and more definite than in the others. A much darker spot is present in all of them above the anterior end of the lateral line.

57. *Myleus parma* (Günther).

Four specimens 6 inches long and one 11 inches, taken in the market at Pará. The large one has the middle anal rays produced (male), and the procumbent predorsal spine is scarcely evident. The depth (in the smaller ones) is contained $1\frac{2}{5}$ times in the length, and the head 4 times. The back is highest at the front of the dorsal, and the ventral outline deepest at the anal, so that the cross axis of the body is oblique. The anal lobe is a trifle longer than the head, and longer than the anterior dorsal rays. The pectoral does not reach to opposite the ventral, which reaches half way, or a little more, from its base to the anal. There are 36 to 38 ventral scutes. The front lobe of the anal is black, and all of the ventral fins are margined with black behind.

58. *Mylosoma aureum* (Spix).

Three specimens were taken at the mouth of the Madeira River by Dr. Baker and Mr. Mann. The depth is from $1\frac{1}{3}$ to $1\frac{2}{5}$ in the length to the caudal base. The anal is angulated behind the posterior third, as in the drawing published by Spix. There are 43 or 44 ventral scutes, with 4 or 5 paired ones surrounding the vent. One specimen has 49 scutes, all of them simple and running at one side of the vent. In this it is apparently abnormal.

59. *Mylosoma albiscopis* (Cope).

Two specimens taken at Pará seem to be referable to this species. The anal is less angulated than in *Mylosoma aureum* but more evenly rounded,

as in Dr. Cope's drawing of the type. There are from 47 to 50 simple scutes along the median ventral line, and from 7 to 9 pairs are crowded in around the vent.

60. *Mylosoma herniarius* (Cope).

Two specimens were collected by Mr. Mann and Dr. Baker just below the mouth of the Madeira River in the Amazon. They are slightly less deep than the picture published by Mr. Fowler (Proc. Phil. Acad. Sci. 1906, p. 477, fig. 56), which has the depth equal to the distance from the snout to the adipose dorsal. In these specimens the depth is equal to the same distance, less $\frac{3}{4}$ the diameter of the eye. The sigmoid curve of the ventral outline is scarcely so pronounced. The anal is covered with scales (*Mylosoma*) and on one of the specimens it is angulated posteriorly, as it usually is in *M. aureum*, while in the other it is more evenly rounded as in Mr. Fowler's drawing. The scutes along the ventral ridge number 40, and there are none surrounding the vent.

61. *Raphiodon vulpinus* Spix.

Several specimens, a foot in length, were collected at Pará. The depth of the body is equal to the length of the head, or is contained from $5\frac{1}{4}$ to $5\frac{1}{2}$ times in the length to the caudal. The eye is contained from $4\frac{1}{2}$ to 5 times in the head, and the maxillary $1\frac{1}{2}$ times. The cheek is almost entirely covered by the expanded suborbitals. The adipose eyelid has a vertical elongate opening, as in some of the herring-like fishes. The pectoral is a trifle shorter than the anal base, or one-fourth of the length to the caudal. The front of the dorsal is a little behind that of the anal. The caudal is not rounded, as in the picture published by Spix (Pisc. Bras. tab. 26), but is angulated at the tips of the outer rays and double lunate behind, with the middle one or two rays produced considerably beyond the rest of the fin and carrying the lateral line to their tips. The ventrals are in front of the anal a distance equal to the combined length of the snout and the eye.

62. *Hydrolycus pectoralis* (Günther).

A couple of specimens, 8 inches long, were taken by Dr. Baker and Mr. Mann in the Amazon River near the mouth of the Madeira River.

The body is much deeper than the length of the head, and is contained $3\frac{1}{2}$ times in the length to the caudal; the head, without the projecting jaw, $4\frac{1}{2}$ times. The pectoral is scarcely as long as described for the type. In one specimen it scarcely extends to the front of the dorsal; in the other it extends just to, though its length as contained in the entire

length is the same (about 3 times). The anal has from 45 to 47 rays, and its base is contained from $3\frac{3}{5}$ to 4 times in the length. The caudal is rounded and the middle rays are not produced with the lateral line. The ventrals are a little more than half as long as the head. The anal and caudal are very closely covered with scales. The scales on the body are slightly ctenoid. A large black spot is present on the shoulder girdle above, a small one on the base of the lower pectoral ray, and one on the adipose dorsal.

63. *Hydrocynus cuvieri* (Agassiz).

This species is not uncommon in the market at Pará, where a number of specimens were collected. As our steamer entered the Rio Pará, numbers of what appeared to be this form could be seen darting swiftly over the surface of the stream, with the greater part of their bodies out of the water.

64. *Hoplias malabaricus* Bloch.

This species was taken at Cedro Dam, near the town of Quixada, at Ceara Mirim, at Lake Extremoz and at Lake Papary.

65. *Hoplerythrinus unitaeniatus* (Spix).

One specimen was found in the market at Pará. I may here call attention to an evident mistake in Dr. Eigenmann's key to the family Characidae (Freshwater Fishes of British Guiana, p. 258). For the above genus and for *Erythrinus* the walls of the anterior portion of the air-bladder are said to be cellular. In our representatives of this genera it is the second chamber of the air-bladder, the part behind the pneumatic duct, that is cellular. The walls of the anterior chamber and the posterior part of the posterior chamber are simple in structure.

FAMILY GYMNOTIDÆ.

66. *Sternarchus macrolepis* Steindachner.

A few specimens were taken at Pará. The teeth in the upper jaw are extremely easily lost, and in about half of the specimens at hand they are not to be detected. There is considerable variation in the length and slenderness of the tail and in the position of the vent.

67. *Sternarchus albifrons* (Linnaeus).

A single specimen was found in the market at Pará. It has 15 scales between the lateral line and the median line of the back. The head is contained $6\frac{1}{3}$ times in the length, and $1\frac{1}{4}$ times in the greatest depth.

The angle of the mouth is under the posterior edge of the eye. The snout is contained 3 times in the length of the head, and is equal in length to the longest anal rays. The anal has 152 rays, and its posterior end is distant from the caudal a distance equal to the length of the caudal.

The head is slate-color and darker than the rest of the body. On its upper surface is a white, rectangular, longitudinal spot, and from it a thin, light, broken line runs posteriorly along the back. An abrupt white band crosses the body above the posterior part of the anal fin, involving the latter, and a second one crosses the base of the caudal fin and caudal peduncle. The tip of the caudal fin is white. The fins are otherwise jet black.

68. *Sternarchella sima* Starks, new species.

Plate 4.

The ventral outline of the head and body is more strongly curved than the dorsal. The greatest depth of the body is 7 in the length. The head is small, with its dorsal contour abruptly rounded at the snout, and its ventral contour slightly and evenly curved to the tip of the mandible; its length is contained from 8 to $8\frac{1}{2}$ times in the length of the body. The mouth is very small; its gape is more transverse than lateral, nearly straight in front and abruptly curved down at the end of the maxillary on the side. The maxillary reaches to under the very inconspicuous posterior nostril. Small, sharp, movable teeth are present in several series on both jaws. The eyes are small and the thick skin that covers them is continuous with the side of the head, so that their extent is difficult to appreciate. Their diameter is contained 8 times in the length of the head, 2 times in the snout, and 2 times in the interorbital space. At the isthmus is a deep longitudinal groove, at the middle of which the vent is placed a little nearer to a vertical line from the preopercle than one from the eye.

The scales are rather large and thin. There are from 75 to 80 tubes in the lateral line. Over an area extending above the base of the anal rays, and about equal in width to the length of the rays (the area of the interhaemal rays) the scales are abruptly smaller. There are 8 or 9 scales between the lateral line and the scaleless area of the back at the widest part of the body. The anal begins below the base of the pectoral or very slightly in front of it, and ends a distance from the caudal base nearly equal to the length of the head. It contains 193 rays, the longest of which are a trifle under half of the length of the head. The pectoral is contained $1\frac{1}{3}$ in the head, and has 14 or 15 rays. The length of the caudal is equal to the diameter of the eye.

In life the color was flesh-color, with the back slightly darker with slaty brown. In alcohol the only pigment is a dusky brown narrow band along the back.

This species may be known from other members of its genus by its having a blunt, rounded snout overhanging a small mouth.

Four specimens were taken at Pará, all of them about 6 inches in length.

69. *Sternarchogiton natterei* (Steindachner).

A single small specimen was collected by Dr. Baker and Mr. Mann at the mouth of the Madeira River.

70. *Sternarchorhamphus mulleri* (Steindachner).

Many specimens of this species were taken at the market at Pará.

Among them there is a very great variation in the caudal and fin. In many of them the peduncle is nearly twice as long as the head and tapers almost to a point. Its narrowest part is scarcely wider than the very small eye, and the caudal fin is only a trifle wider. In others it is less than the length of the head and tapers more rapidly to a width similar to the first ones. In one specimen it is no longer than the snout and scarcely tapers at all, being three or four times as wide as the narrowest ones, or equal to one-fourth of the length of the snout, while the fin is correspondingly large. One specimen has the peduncle very wide and short, and the fin very diminutive as usual. These specimens do not otherwise differ from each other except in the position of the vent, and this variation has no correlation with the caudal variation. The vent may vary from a position a trifle behind the eye to one considerably in front of it.

These specimens are all colorless in alcohol except a slight tinge of orange-yellow on the fins and a slight dusky tinge on the back. One specimen, however, differs in being a rather dark slaty-brown, almost uniform, but slightly darker above; about the opercular region are blue shades; the fins are bright orange, growing yellow toward the tips of the rays, with the tips dusky, or on the pectoral, nearly black.

71. *Sternarchorhynchus curvirostris* (Boulenger).

This species is common at Pará, though it has not been before recorded from the lower Amazon.

72. *Sternarchorhynchus oxyrhynchus* (Müller and Troschel).

A small specimen was taken by Dr. Baker and Mr. Mann about 400 miles above the mouth of the Rio Madeira.

73. *Rhamphichthys rostratus* (Linnaeus).

One specimen was collected at Pará. The postorbital part of the head is contained $1\frac{1}{5}$ times in the length of the snout.

74. *Rhamphichthys reinhardtii* Kaup.

Many specimens of this common species were seen in the market, though on account of their large size only 5 were collected.

I follow Doctor Eigenmann in recognizing this species, while believing with him that it is probably a long-snouted variation of *R. rostratus*. Though there is little difference between these species, except the rather extraordinary one of the length of the snout, it seems better to keep them separate until intermediate variations are reported. In the specimens before me the body is more slender and more gradually tapering backward than in the single specimen of *Rhamphichthys rostratus*, but as this character shows considerable variation it is less remarkable.

The postorbital part of the head, measured obliquely to the middle of the gill opening, is contained in the length of the snout from $1\frac{1}{2}$ to $1\frac{3}{4}$ times.

75. *Steatogenes elegans* (Steindachner).

Though this well-marked form was found to be rather common in the market at Pará it has not been reported except at the mouth of the Rio Negro and in the Rio Jurua. It agrees very well with the description and picture of the type, though it differs from the latter in having the tail a little more slender and tapering to a finer point, and in the anal not stopping so abruptly posteriorly but gradually growing lower until it disappears. It has the same number of anal rays.

76. *Eigenmannia virescens* (Valenciennes).

This species was found to be common in the market at Pará. Most of the specimens have the ventral outline more strongly arched than the dorsal, as alleged for *Eigenmannia humboldti*, and specimens of *E. virescens* mentioned by Dr. Eigenmann from Rio Grande do Sul. Others have both outlines equally arched. The character is very evidently due to preservation and cannot be used in classification. In the thick head and other characters these specimens agree very well with current descriptions.

77. *Sternopygus macrurus* Bloch and Schneider.

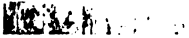
Several specimens of this form were taken at Pará.

The life color is dark olive-green on the back, shading downward to bluish-slate color on the lower parts. There is a dark bluish spot above

gill opening, a light stripe longitudinal along the posterior half of the side, which may be absent, and the fins are light straw-color.

78. *Gymnotus carapo* Linnaeus.

Specimens were taken at Pará and at Lake Papary. The following color note was made from a fresh specimen from the former locality. The back is a very dark dusky-greenish-brown, shading through soiled sienna on the side to dusky-bluish below. The cross bars are black and the anal and pectoral are dusky.



FAMILY ELECTROPHORIDÆ.

79. *Electrophorus electricus* (Linnaeus).

Two specimens were taken at Pará. They were dusky-yellowish-green above, growing yellow on the sides and bright yellow on the lower part of the head, while the lower part of the body was drab, growing lighter anteriorly and merging with the yellow of the head. Blended light spots, as big as the eye, were scattered over the body, and the margin of the vertical fin was light yellow.

FAMILY BUNOCEPHALIDÆ.

80. *Platystacus cotylephorus* Bloch.

A single specimen was taken at Pará.

81. *Aspredo aspredo* (Linnaeus).

Three specimens of this species were collected at Pará.

FAMILY SILURIDÆ.

82. *Felichthys bagre* (Linnaeus).

Three specimens were collected at Pará. There is considerable variation among specimens of the same length in the length of the barbels. In two of them, 15 inches long, the maxillary barbel reaches to the end of the ventral in one, and to the end of the anal in the other. The mental barbel reaches nearly to the pectoral base in one, and scarcely past the eye in the other. The pectoral filament reaches past the tips of the middle caudal rays in one, and not to the caudal in the other. The pectoral filament reaches past the anterior fourth of the anal in one, and to the posterior fourth in the other. The interorbital bone cannot be described as flat in these specimens, for it is considerably convex.

83. *Sciadeichthys proops* (Cuvier and Valenciennes).

Two specimens were collected in the Pará market, and one at Ceara.

84. *Selenaspis herzbergii* (Bloch).

This was by far the most abundant of the subfamily Tachisurinæ in the market at Pará during our stay. The patch of teeth that develops behind the palatine patch and forms the "backward projecting angle" may be found in all stages of development. Sometimes it is not present at all; sometimes it forms a small disconnected patch; sometimes it is very large, connected with the palatine patch, and extends well back in the roof of the mouth. All intergradations are present. It is not altogether a development of age or size as has been supposed, for it may be better developed in a specimen 8 inches long than in one a foot long, while other specimens of similar sizes, differing from these in no other manner, may or may not have it developed. However, it is usually best developed in large specimens, while specimens 7 or 8 inches long only occasionally have it.

There is considerable variation in the roughness of the top of the head, and of the sharpness of the median ridge on the occipital process. One or two specimens were seen with a narrow but very evident groove running back from the frontal but not reaching to the occipital plate.

85. *Tachysurus nuchalis* (Günther).

A few specimens were taken at Pará which differ from the description of the type in having the maxillary barbels extend scarcely to the middle of the pectoral spine instead of "nearly to the end." The tooth-patches on the palatines are the shape and size figured by Dr. Günther, and the palatine teeth are coarse. The inner mandibular teeth are coarse and all of the teeth are brown-tipped. The gill membrane forms a distinct free fold across the isthmus, thus differing from *Tachysurus spixi*.

86. *Pimelodina flavipinnis* Steindachner.

Three specimens, from 12 to 15 inches in length, were taken at Pará. The maxillary barbel in the large specimen reaches only to the end of the adipose dorsal, thus agreeing with *Pimelodina nasus* Eigenmann. In the other two it reaches to or a little beyond the caudal base, as described for *Pimelodina flavipinnis*. The length of the adipose fin is from $2\frac{1}{4}$ to $2\frac{1}{3}$ in the length, thus coming about between these two species. The interorbital space is convex, and the head behind the eyes is not compressed as in *Pimelodina nasus*. The eye is contained about twice in the interorbital, or nearly midway between the condition described for these two species, as

is also the length of the pectoral as compared with the dorsal. In other respects (except "Die kopfbreite zwischen den kiemendeckeln erreicht $\frac{1}{3}$ der kopflänge," which is a mistake, as shown in Dr. Steindachner's picture of the type) these specimens agree with *Pimelodina flavipinnis*. The eye in the head, the depth above the ventrals, the net-work of sensory tubes over the head, the distance of the adipose dorsal from the dorsal, and the color, with several rows of brown spots on the upper half of the body, all agree with that species.

87. *Pinirampus pinirampu* (Spix).

Four specimens of this well-marked species were taken at Pará.

88. *Rhamdia sebæ* (Cuvier and Valenciennes).

A number of specimens were collected at Pará. Comparing a specimen 6 inches in length collected in British Guiana by Dr. Eigenmann with these of equal size the eye is a little smaller, the body and caudal peduncle not so deep or so compressed, and the fontanel a trifle wider.

89. *Rhamdia quelen* (Quoy and Gaimard).

A couple of specimens were taken in the ponds at Ceara Mirim. The maxillary barbels do not reach to the middle of the adipose dorsal, but otherwise these differ only in minor characters from *Rhamdia sebæ* and these are such characters that might be expected to intergrade in a sufficiently large series. It is probable that they represent only one species.

90. *Pimelodus altipinnis* Steindachner.

A common species in the market at Pará, where several specimens were taken.

91. *Pimelodus clarias* (Bloch).

A couple of specimens collected by Dr. Baker and Mr. Mann in the Rio Madeira about 400 miles from its mouth.

92. *Brachyplatystoma filamentosum* Lichtenstein.

A number of specimens of this species were collected at Pará.

93. *Brachyplatystoma vaillantii* (Cuvier and Valenciennes).

This species is a common one in the market at Pará, where a number of specimens were collected.

94. *Brachyplatystoma rousseauxii* (Castelnau).

A half dozen specimens, from 11 to 14 inches in length without the caudal filament, were collected at Pará. The following notes show some

slight differences from the description published by Dr. Eigenmann (South American Nematognathi, p. 198), and add a few variations.

The occipital crest reaches at least $\frac{3}{5}$ of the distance from its base to the dorsal spine. The eye is contained from $6\frac{1}{2}$ to $7\frac{1}{2}$ times in the snout; $3\frac{1}{2}$ to 4 times in the interorbital space; and 14 to 16 times in the length of the head. The maxillary barbel often reaches to the tip of the pectoral, and the postmental is usually coterminous with it, or sometimes is a trifle shorter. The upper lobe of the caudal bears a long filament, variable in length, but often as long as the entire body. The lower lobe is in one or two case filamentous and twice the length of the head, though usually it is but little produced or half that length. The vent is only 6 diameters of the eye from the anal. The entire side of the body is not reticulated and porous, but it bears a lateral band which is about half as wide as the interorbital space under the dorsal, grows a little wider anteriorly and tapers to a point posteriorly. The head is contained from $3\frac{1}{4}$ to $3\frac{1}{3}$ times in the length.

In life it is a strikingly beautiful fish, with metallic golden red, coppery and silvery reflections.

95. *Tænionema platynema* (Boulenger).

A single specimen, 22 inches in length, was collected at Pará. It is referred to this species, though in many of its characters it resembles as well *Tænionema steerei* Eigenmann and Bean, making it appear probable that the two are identical, as suggested in the original description of the latter species. The eye is contained 4 times in the interorbital space, 14 times in the snout, 20 times in the head, the adipose dorsal is 3 times as long as deep, and the ventral and pectoral are equal in length. All of these characters are as in *T. platynema*. The length of the head is 3 times as long as deep, and the length of the first dorsal ray is contained $1\frac{1}{2}$ times in the head as in *T. steerei*. The depth of the body is $6\frac{1}{2}$ times in the length, and the depth of the caudal peduncle is 2 times in its length. The fins and the sides are bright yellow in alcohol; its colors in life were not recorded.

Platypogon, new genus.

This genus is related to *Brachyplatystoma*, but has the barbels with their inner edges bearing a thin dermal membrane, and has not the characteristic small eye and flat, depressed snout. The teeth are freely movable and in broad bands. On the premaxillary, and to a less degree on the mandible, they grow longer posteriorly and point backward. The palatine and vomerine teeth form a continuous band. The fontanel does not extend

back as a groove, and the top of the head is covered with a moderately thick skin. The supraoccipital process barely reaches to the dorsal plate. The adipose dorsal is situated over the anal and is about equal to it in length. The anal is emarginate and the caudal is forked.

96. *Platypogon caenlorostris* Starks, new species.

Plate 5.

The head is conical, as deep as wide opposite the posterior edge of the operculum, and equal to two-thirds of its length. It is contained 4 times in the length of the body to the caudal base. The depth of the body slightly exceeds its width, and is contained from $5\frac{1}{3}$ to $5\frac{2}{3}$ in the length. The depth of the narrowest part of the caudal peduncle is contained from $3\frac{1}{3}$ to $3\frac{1}{2}$ times in the head. The skin forms a moderately thick covering to the bones of the top of the head, forming a smooth surface with fine striations barely indicated. The fontanel does not extend behind the eye, and a very short groove, not longer than the pupil, extends back and terminates abruptly. This is only made evident by removing the skin. The occipital process tapers back to a rather narrow point at the dorsal plate, being scarcely, or barely, in contact with it and not at all connected. The eye is large and round. Its diameter is contained $2\frac{1}{2}$ times in the interorbital space, 6 times in the head, and $2\frac{1}{4}$ times in the snout. The premaxillary band of teeth is widest at the middle, where it is equal to two-thirds of the diameter of the eye. The teeth grow long posteriorly and lie flat, pointing straight backward. The vomerine and palatine patches of teeth form a continuous band, a little narrower than the premaxillary band, and slightly narrower in the middle than at either side. All of the teeth are freely movable. The snout is convex above, and moderately broadly rounded in front. Its length is contained 3 times in the head. The rictus reaches to under the anterior margin of the eye. The barbels have a membranous posterior margin, especially the mentals and postmentals, where the membrane is as wide, or a little wider, than the fleshy part of the barbel. The maxillary barbels reach to the base of the ventrals, the postmental barbels a little past the middle of the pectorals, and the mental barbels to the base of the pectorals.

The dorsal spine is filamentous, a third longer than the head, and reaches to the adipose dorsal. The dorsal has 6 rays, and its base is contained $2\frac{1}{2}$ times in the space between it and the adipose dorsal. The base of the adipose dorsal is almost as long as that of the anal, and is situated directly opposite to it. Its vertical height is half of the length of its base.

The anal has 14 rays, counting two in front of the longest ray. It is deeply emarginate, and its longest anterior rays reach past the tips of the last ones. The ventrals are situated a little less than the length of the head in front of the anal, and reach three-fourths of the distance to the anal. The caudal is widely forked, and its lower lobe is a trifle the longer. Its longest rays slightly exceed the length of the head.

The ground color is slaty-brown on the back, grading downward to soiled white on the lower parts. On the upper part of the side two more or less definite rows of dark brown spots with blended edges, their diameter about half that of the eye. The top of the head is brown, with a conspicuous white spot over the fontanel. The tip of the snout has a deep blue spot almost the exact color of modern blue-black writing ink. The fins and humeral processes are deep orange-yellow, more intense on the caudal. Counting from the middle of the caudal fin downward the sixth to the eighth rays are abruptly black.

Three specimens were collected at Pará, from 9 to 12 inches in entire length.

97. *Sorubim lima* (Bloch and Schneider).

A single specimen, 10 inches long, was collected by Dr. Baker and Mr. Mann in the Madeira River about 400 miles above its mouth.

The plates on the head are finely striate, granulate, and separated by well-marked sutures. The anterior half of the occipital plate is bounded laterally by parietal and temporal plates. Its granulated surface does not reach to the dorsal plate, but below the thin membrane that covers it it extends to, and joins, the dorsal plate. The dorsal plate is spearhead-shaped, with its point forward. The fontanel is open from the middle of the eye to within a diameter of the eye of the occipital plate, and anteriorly is represented as a groove to in front of the eye. A membranous groove in the middle of the occipital plate appears like a second fontanel, but it does not pierce the bone.

98. *Platystomatichthys sturio* Kner.

Several specimens were collected at Pará, the longest 14 inches in length. They show some variation from Dr. Eigenmann's description. The projection of the snout beyond the lower jaw is contained from $2\frac{1}{3}$ to $2\frac{3}{4}$ in the length of the head. The eye is contained from $10\frac{1}{2}$ to $12\frac{1}{2}$ times in the same distance. In none of them are the palatine teeth as far remote from the vomerine, as described and figured by Dr. Eigenmann. Usually the palatine teeth are almost in contact with the vomerine teeth, there being

only a fine line of naked skin between. Occasionally the space is a little wider, but in none is it as wide as in the picture.

99. *Doras dorsalis* Cuvier and Valenciennes.

Many specimens of this common species were collected at Pará. In most of them the stomach was tightly filled with a small univalve shell.

The dorsal median plates and the ventral plates on the caudal peduncle are apparently never present in specimens as small as 5 inches in length, but in those 6 inches long some of them are present at least as rudiments. Though they are usually the best developed in the largest specimens they may be almost entirely absent. There is also much variation in the roughness of the head. In one specimen the bones of the head are so finely granular as to appear almost perfectly smooth.

These specimens show some slight variations from Dr. Eigenmann's description (S. Am. Nematog. Cal. Acad. Sci., 1890). The caudal peduncle measured at the bases of the spines is as wide as deep. Usually a series of slight broken ridges extends from the frontal to the dorsal plate, and a well-developed groove on the dorsal plate extends to its tip, but only occasionally "a marked groove extends from it [the frontal] to the tip of the dorsal plate." The pectoral spine is as long as the dorsal spine or often a trifle longer, and in the young of 6 inches in length it is equal in length to the head, or slightly shorter, but in specimens 10 or 11 inches in length it is considerably longer than the head.

100. *Centromochlus heckelii* (Filippi).

Several specimens of this peculiar little species were taken at Pará, the largest 4 inches in length.

101. *Trachycorystes galeatus* (Linnaeus).

Several specimens were collected in the market at Pará. The following color notes were made from fresh specimens. The ground color is opaque, soiled light yellow, usually with black blotches scattered over the head, body and fins. These may be absent or often take the shape of horizontal elongate spots, or the form of irregular lines suggesting penciled lines. The under parts are milk-white, often more or less soiled with groups of small dark dots.

102. *Trachycorystes striatulus* Steindachner.

A few specimens were collected in the little ponds about Ceara Mirim. These much resemble *Trachycorystes galeatus*, but the head is not so rough

or naked; the humeral process is shorter and does not project so much laterally at the base over the base of the pectoral spine; no pectoral pore is present; the top of the head between the eyes in the adult is a little flatter; and in the specimens at hand the color is darker and the under parts dusky with fine points. These differ from the original description in having 2 or 3 fewer anal rays.

103. *Pseudanchenipterus nodosus* (Bloch).

A number of specimens from 6 to 9 inches in length were taken at Pará, which I refer, with considerable hesitation, to this species, though they agree very well with the picture* and short description of *Pseudanchenipterus guppyi* Regan (Proc. Zool. Soc. 1906, Pl. XXIII). The head cannot be described as having the "upper surface, excepting the snout, rugose, not covered by skin; frontal bones not swollen." On the contrary, the top of the head is as described by Dr. Eigenmann (S. Am. Nematognathi, p. 290) for *P. nodosus*, with the frontals swollen and of distinctly "honey-comb structure." It is covered with thin skin. These specimens have the color markings as described and figured for *P. guppyi*, with the same light lateral band and vertical row of light spots, and with or without the black border to the caudal. These markings are occasionally obscure, though they are usually very conspicuous. They differ from Dr. Eigenmann's description of *P. nodosus* as follows: The pectoral spine is usually sharp-pointed and does not end in a filament. Its length is from 4 to $4\frac{3}{4}$ (not from $2\frac{2}{3}$ to $3\frac{1}{3}$), thus agreeing with the pictures published by Bloch and by Bleeker. The humeral process usually extends to the middle of the pectoral spine or a trifle beyond.

104. *Auchenipterus nuchalis* (Spix).

Very common at Pará, where a large number were collected.

There is a remarkable variation in the maxillary barbel. In most of them the barbel extends straight back under the eye. It is very slender, its anterior end ossified, and it fits into a shallow groove immediately below the eye. In the opposite extreme the base of the barbel is a wide curved bone, much wider than the pectoral spine, and its curve forms at least a fifth of a complete circle (though it is not an even curve, being more abrupt below the eye). It extends upward from the eye, and ends above the level of the eye a little behind the head. It does not taper much posteriorly, but ends

* The title of the picture and the reference in the text are transposed with those of *P. pascæ*.

abruptly at the beginning of the fine soft part of the barbel. The groove that it occupies encroaches somewhat upon the eyeball below. There is only about one of these specimens to a dozen of the others.

Between these extremes are nearly all of the intermediate stages, and coördinating with it are the size and shape of the first anal rays. These are enlarged and form a process in the specimens with the large, bony, curved maxillary barbel, but not at all differentiated from the other rays in those with the straight, fine, scarcely ossified barbel, while they are slightly enlarged in those with the barbel slightly enlarged, curved and ossified.

The enlarged anal process suggests a copulatory organ. It is as long as the pectoral spine, or two-fifths longer than the rays behind it, and is formed of two rays, with a third slightly enlarged and closely attached to it. These appear to be the first rays, but upon dissecting away the integument two slender shorter rays are found in front of them. The enlarged rays, though they become stiff and spine-like, do not lose their articulations. The tip of the process is strongly hooked up and back. In a specimen with the ossified portion of the barbel no wider than the pectoral spine, and the ossified portion shorter and passing into the fleshy portion imperceptibly, the anal process is enlarged but not hard and spine-like at the tip, and not hooked up. In those where the condition of the barbel is about midway between the extremes, that of the anal process is also about midway between, perceptibly enlarged, but not longer than the other rays.

Whether these characters go with sex I am unable to ascertain with the specimens at hand. Some specimens have the abdominal cavity filled with fat, and the bases of the fins thickened with fat. This gives to the fins of preserved specimens an orange-yellow color. In other specimens this condition is not apparent. It cannot be correlated with the condition of the barbel or anal process.

105. *Ageneiosus ucayalensis* Castelnau.

Many specimens were taken in the market at Pará, where it seems to be as abundant as *Ageneiosus dentatus*, which it much resembles. From the latter it may be known by the slightly more slender body, the longer snout as compared with the width of the head at the eyes (as compared with the length of the head or the body the difference does not appear), the smaller eyes, the wider band of teeth on the premaxillary, the longer and more strongly curved mouth, the more strongly projecting upper jaw, and the slenderer spines. The color is usually more bluish, less spotted above, becoming more abruptly white on the sides, and seldom with a black or dusky

spot on the base of the caudal rays above and below. The difference in the width of the band of teeth as given by Dr. Eigenmann, "depth of intermaxillary band of teeth in front equals a diameter of the eye" in this species, and "depth of intermaxillary band of teeth scarcely more than half as wide as eye" in *A. dentatus* is not such a difference as might appear, for it is usually considerably more than half as wide as the eye in the latter species, and the difference between them is as much a variation in the size of the eye as of the teeth. When the bands of teeth are directly compared with each other it is only a little wider in *A. ucayalensis*.

106. *Ageneiosus dentatus* Kner.

Common in the market at Pará, where several specimens were taken. On the back are indications of cross bands or mottled spots, especially in the young, and the color is made up of rather coarse dots.

FAMILY HYPOPHthalmIDÆ.

107. *Hypophthalmus edentatus* Spix.

This species is very common in the market at Pará, where a series of specimens from 4 to 16 inches in length was collected. These show very well the branching tubes of the lateral line system developing with size, and also shortening of the barbels, as described by Dr. Eigenmann.

108. *Cetopsis cæcutiens* Lichtenstein.

A single specimen from Pará, and two from the Rio Madeira, the latter collected about 400 miles above the mouth of the river by Dr. Baker and Mr. Mann.

In the largest one, 10½ inches in length, the skin has so grown over the eye as to almost completely hide it.

FAMILY LORICARIDÆ.

109. *Farlowella hargreavesi* Eigenmann.

This species was described as new in my manuscript, but it has recently appeared under the above name in Doctor Eigenmann's Freshwater Fishes of British Guiana (Mem. Carnegie Mus. Vol. V, p. 252). I leave my description and comparisons stand as I have written them, however, as they show some slight variation from, and add a little to, the description of the type.

A single specimen, 8 inches in length, was collected in the market at Pará.

The head, measured to the end of the temporal plate, is contained $3\frac{3}{4}$ times in the length to the caudal. It is wider than in related species, and rapidly tapers, as viewed from above, to a point half way between the eyes and the tip of the snout, thence the taper is scarcely perceptible to the slightly expanded tip of the snout. The length of the snout is contained $4\frac{5}{6}$ times in the entire length to the caudal. Opposite the eyes the depth of the head is contained $1\frac{4}{5}$ times in its width. The surface of the head and snout are everywhere finely granular, with the granulations not bristle-like or otherwise differentiated at the side. The teeth of the upper jaw are long and slender, hooked inwards, their points flattened and unevenly divided into two or three unequal cusps. There are at least 24 of them on each side of the jaw. The diameter of the eye is contained 14 times in the length of the head; 3 times in the interorbital; once in the space to the anterior nostril; and $1\frac{1}{2}$ times in the space to the upper end of the gill opening.

The breast has a median series of plates; the one between the ventrals and just in front of the vent is enlarged. At the vent a lateral plate extends entirely across the body and is pierced by the vent. Directly behind it is the last median ventral plate. Seven plates are in the median series between the occipital plate and the dorsal. The same number of lower lateral plates are between the pectoral and ventral.

The pectoral is contained $2\frac{1}{6}$ times in the head, and reaches a diameter of the eye past the front of the ventral. The ventral is contained $3\frac{3}{5}$ times in the head, and does not reach to the anal. The anal has 6 rays, is inserted behind the front of the dorsal and reaches a trifle past it. Its first ray is contained $1\frac{3}{4}$ times in the head. The caudal lobes are produced.

A conspicuous dark band, about twice the diameter of the eye at its widest part, runs from the tip of the snout to the caudal. The entire snout is dark and the color parts into the lateral band of each side where the snout grows broad. The band thence curves upward, surrounding the eye, and arches backward, following the contour of the back. It follows along the side of the caudal peduncle with a round white spot at the posterior edge of each plate, and divides on the caudal fin in a black stripe along each lobe near the edge. The other fins are colorless, and except the ventral, have round dusky spots on the first two or three rays.

This species is related to *Farlowella gladius* and *F. gracilis*, but differ as shown in the appended table. Of the only other two species with a median series of ventral plates *F. kneri* has a much blunter, shorter, and wider snout, and a much larger eye, while *F. oxyrhynchus* has the post-dorsal part of the body much shorter as compared with the predorsal part.

TABLE SHOWING DIFFERENCES BETWEEN FARLOWELLA HARGREAVESI,
F. GLADIUS AND F. GRACILIS.

For *F. gladius* the measurements are taken both from the original description and from a description published by Regan (Trans. Zool. Soc. Lond. XVII, 1904, p. 303).

	<i>hargreavesi</i>	<i>gladius</i>	<i>gracilis</i>
Length of head in length of body.....	3 $\frac{3}{4}$	3 $\frac{1}{2}$ ①	3 $\frac{3}{8}$
Width of head in length of head.....	3	4	4
Eye in head.....	14	18 ①	12 $\frac{1}{2}$
Eye in interorbital.....	3	3 $\frac{1}{2}$	3 ①
Interorbital in head.....	5 $\frac{1}{2}$	5	5 $\frac{3}{8}$
Distance from supraoccipital to first dorsal ray in length of body.....	6 $\frac{1}{4}$	6	6 $\frac{1}{4}$
Postorbital part of head in snout from naked oral area.....	2 $\frac{1}{2}$	2 $\frac{3}{4}$	3 $\frac{1}{2}$ ①
Number of lateral scutes.....	35	33	33
Length of 2nd and 3rd dorsal scutes in their width.....	2	3 ①	2 $\frac{3}{8}$ ①
Pectoral ending in relation to front of ventral.....	past	not to	just to ①
Length of dorsal ray.....	1 $\frac{3}{4}$	2	2 $\frac{1}{2}$ ①
Length of first anal ray.....	1 $\frac{1}{2}$	2 $\frac{1}{2}$	2 $\frac{1}{2}$ ①
A black lateral band.....	present	absent	absent

①According to Boulenger. According to Regan and the picture it is 3 $\frac{3}{8}$.

①According to Regan. According to the picture it is 16 $\frac{1}{4}$.

①According to Regan. The picture shows it to be 2 $\frac{1}{2}$.

①According to the picture. These characters not described by Regan, who states "other characters similar to the preceding species [*F. gladius*]."

①According to picture. Boulenger describes them "as more than twice as long as broad."

110. *Loricaria cataphracta* Linnæus.

Three specimens from Pará.

111. *Plecostomus emarginatus* (Cuvier and Valenciennes).

A few specimens were collected by Dr. Baker and Mr. Mann in the Madeira River about 400 miles from its mouth.

112. *Plecostomus pusarum* Starks, new species.

Plate 6.

In the following description only specimens between 6 and 8 inches in length are considered, though smaller ones were taken.

The head to the temporal plate is contained 3 times in the length. The temporal and occipital ridges are only very slightly indicated, not nearly so well developed as in *Plecostomus plecostomus*. The width of the

head is from 1 to $1\frac{1}{2}$ diameters of the eye less than the length of the head. The depth of the head at the point of the supraoccipital is equal to the length of the snout. The interorbital space is contained $2\frac{1}{2}$ times in the head, and the length of the snout from $1\frac{3}{4}$ to $1\frac{4}{5}$ times. The distance from the anterior nostril to the tip of the snout is equal to the interorbital space. The middle of the interorbital space is only a trifle higher than the supraorbital rim, while the intermediate space between these two points is somewhat sunken on each side. The eye, inside of the eyelids, is contained from 9 to 10 times in the head, and $3\frac{1}{2}$ to 4 times in the interorbital space. The band of teeth on each side of the mandible is contained $3\frac{1}{2}$ times in the interorbital space, and the width of the lower lip $2\frac{1}{2}$ times. The barbel does not reach to opposite the posterior edge of the lip, and is equal to the space between the eye and the posterior nostril.

The distance from the tip of the snout to the first dorsal spine is contained from $2\frac{1}{3}$ to $2\frac{1}{2}$ times in the length of the body. The vent is midway between the base of the caudal and the pectoral spine. The depth of the body in front of the dorsal spine is contained from 4 to $4\frac{1}{2}$ times in the length, and the greatest width from 3 to $3\frac{1}{4}$ times. The caudal peduncle in front of the adipose dorsal is as wide as it is deep. The first dorsal spine is a trifle less than the length of the head, and when the fin is reclined its tip does not reach to the middle of the last ray. The last ray is equal to the length of the snout, and for a short distance near its base it is adnate to the back. The tips of the last rays broadly overlie the adipose dorsal, reaching at least to its middle. On the posterior margin the dorsal fin is convex. The length of the pectoral spine is contained from 3 to $3\frac{1}{4}$ times in the length of the body, and almost a third of its length extends past the base of the ventral. The ventrals reach well past the posterior end of the anal base, or half way or more from their base to the caudal fin. The anal has a spine and 4 soft rays, and the tips of its rays do not reach so far back as the dorsal rays, but reach half way, or nearly, from their base to the caudal. The lower caudal lobe is longer than the upper, and the lowest branched ray reaches nearly to the tip of the lower simple ray, which is scarcely filamentous at the tip. The lower simple ray is contained from $2\frac{1}{3}$ to $2\frac{1}{2}$ times in the body, the upper ray from $2\frac{2}{3}$ to $2\frac{3}{4}$ times.

The supraoccipital is bounded behind by a single plate. Two upper rows of plates are slightly carinate, and four plates extending back from the pectoral are bluntly carinate; the carinations are scarcely evident elsewhere. The longitudinal spinules grow coarser on the caudal peduncle, and are coarser and less numerous than in *P. plecostomus*. There are 25 or 26

lateral plates; 3 between the occipital and dorsal spine, the last very narrow medially; 7 between the dorsals; 4 between the adipose dorsal spine and the caudal; 12 between the anal and the caudal. The cross lines on the belly divide the granulations into much larger plates than in *P. plecostomus*, and there is a larger naked area at the bases of the ventral fins.

Dark spots cover the body, on the ventral as well as the dorsal surface, and the fins. Each dorsal membrane bears two rows of them.

This species is most closely related to *P. plecostomus*, but differs in having a smaller eye, the occipital and temporal ridges scarcely developed, the dorsal fin overlapping the adipose dorsal, the plates on the belly coarser, the spinules on the lateral scales coarser, and the whole posterior part of the body shorter, so that the anal and ventrals and vent are more posteriorly placed in relation to the caudal base.

Numerous specimens from 2 to 8 inches in length were collected in the little disconnected ponds and in the muddy stream at Ceara Mirim, the boys catching them under the overhanging grassy banks in their hands and in dip-nets. The type is 8 inches in entire length. (*Pusarum*, named in memory of the boys to whom I owe the collection of fishes at Ceara Mirim—the best collectors we found in Brazil.)

113. *Plecostomus plecostomus* (Linnaeus).

Three specimens were taken at Pará, the largest 8 inches in length. This species resembles *Plesoctomus verres* very closely. It differs not only in having the supraoccipital bounded behind by a single plate, but the dorsal is less angulated, less oblique and straight on its posterior edge, and its outline more rounded. The scales on the breast and belly are more segregated into little square areas formed by diagonal cross lines.

114. *Plecostomus verres* (Cuvier and Valenciennes).

Several specimens were collected at Pará, the largest a foot in length. They agree very well with current descriptions except that "scutes carinate except on caudal peduncle" (Regan Trans. Zool. Soc. Lond. XVII, p. 209) does not adequately describe these, for the scales on the caudal peduncle have low keels, not so sharp and high as they are anteriorly, but still very evident.

115. *Acanthicus hystrix* Spix.

A specimen of this rare species, 14 inches long without the caudal filaments, was collected in the market at Pará. It has 8 soft rays in the dorsal. The barbels, unlike the specimen described by Dr. Eigenmann, scarcely reach as far posteriorly as the edge of the lower lip.

FAMILY CALLICHTHYIDÆ.

116. *Callichthys callichthys* Linnaeus.

Three specimens were taken at Pará.

117. *Hoplosternum thoracatum* (Cuvier and Valenciennes).

Several specimens were taken at Lake Papary and two at Pará.

FAMILY SYNODONTIDÆ.

118. *Synodus foetens* (Linnaeus).

Two small specimens taken at Natal.

FAMILY PÆCILLIDÆ.

119. *Anableps anableps* (Linnaeus).

A single specimen from Pará.

120. *Pæcilia vivipara* Bloch and Schneider.

A large number of specimens from 1 to $2\frac{3}{4}$ inches in length were collected in the little ponds at Ceara Mirim, and in a pond in a deserted part of a public park at Ceara. They are identical with specimens collected in British Guiana by Dr. Eigenmann.

The head is contained from $3\frac{1}{2}$ to 4 times in the length to the caudal base; the depth from 3 to $3\frac{1}{3}$ times. The eye is contained from $3\frac{1}{2}$ to 4 times in the head, or 2 times in the interorbital space. The width of the mouth is $1\frac{1}{2}$ times in the interorbital space. The front of the dorsal is midway between the base of the caudal and the opercle, or varying to slightly in front of the last point. The length of the pectoral is equal to the combined length of the eye and the postorbital part of the head, or to the depth of the caudal peduncle. There are 6 or 7 rays in the dorsal, and the same number in the anal, though the base of the latter is much shorter. The cross series of scales number from 26 to 28.

The males do not exceed a length of 2 inches. They have from 4 to 6 cross bars, usually a little narrower than the interspaces but not always, behind the front of the dorsal. Just above the point of the pectoral on the upper part of the side is a brown spot as large as the eye. It is conspicuous in specimens up to $1\frac{1}{2}$ inches in length, but in large ones it becomes lengthened into an anterior cross bar. The females have no conspicuous cross bars except a slight trace of them in the younger specimens. They may retain the dark side spot until they are $2\frac{1}{4}$ inches in length, but usually it dis-

appears by the time they are 2 inches long. On both sexes the scales are bordered with brown, and the upper and lower rays of the caudal sometimes bear a spot irregular in size, and varying in color from black to its complete absence.

FAMILY BELONIDÆ.

121. *Tylosurus almeida* (Quoy and Gaimard).

Specimens were secured at Lake Papary, Natal and Pará.

FAMILY HEMIRAMPHIDÆ.

122. *Hyporhamphus unifasciatus* (Ranzani).

Numerous specimens from 6 to 10 inches in length were taken at Natal. None of them has the mandible, from the tip of the upper jaw, shorter than the rest of the head, as stated by Jordan and Evermann (Fishes of N. and Mid. Am. p. 720), nor are the ventrals always inserted midway between the eye and the base of the caudal, but their insertion varies from that point to midway between the base of the caudal and the gill opening as in *Hyporhamphus rosæ*. These specimens were compared with some from Jamaica and found to agree in all of their characters.

FAMILY EXOCÆTIDÆ.

123. *Cypselurus rubescens* (Rafinesque).

A large specimen of this fish flew on board of our steamer while en route between Ceara and Natal. The light area on the pectoral is not nearly as large or distinct as usual.

FAMILY SYNGNATHIDÆ.

124. *Hippocampus punctulatus* Guichenot.

A few specimens of this form were collected in the harbor at Natal.

Two distinct color phases are represented, but no other differences appear. The following colors were taken from live female examples. The only male collected is of the color of the second one here described.

(1) The lower parts of the head, belly and tail are bright canary yellow, and the upper parts are yellowish green. Two dark brown cross bars occur between the head and the dorsal fin. The second one is more conspicuous, covering two rings, and covered with irregular, longitudinal, white lines. A third cross bar is on the tail four rings behind the dorsal. Be-

hind this are some scarcely distinguishable bars on top of the tail. Very fine white points are scattered over the body and head.

(2) The belly and under parts of the head are light gray, almost white, while the upper parts grow gradually darker to almost black. There is no yellow anywhere. The head and body are nearly everywhere covered with dark spots as large as the pupil and smaller, with numerous fine white points in between, some of which are arranged as irregular light lines. The body color is very much the same as the cross bars on the yellow specimens. A few light lines radiate from the eye. No cross bars are present. Another specimen of this type of coloration has the white dots run together into large, numerous solid lines, giving a much lighter general effect.

FAMILY ATHERINIDÆ.

125. *Menidia brasiliensis* (Quoy and Gaimard).

Many specimens were seined in the harbor at Natal and collected by the fishermen in Lake Papary. These specimens have 3 or 4 dorsal spines, not 4 or 5 as described by Doctor Günther (Cat. III, p. 404).

FAMILY MUGILIDÆ.

126. *Mugil brasiliensis* Agassiz.

This species was very abundant at Lake Papary and Lake Extremoz. In the former lake specimens were taken nearly three feet in length.

127. *Mugil curema* Cuvier and Valenciennes.

Specimens were taken at Pará, Natal and Lake Extremoz.

128. *Mugil trichodon* Poey.

This was the commonest mullet in the harbor and rock pools at Natal, where several specimens were taken.

FAMILY SPHYRÆNIDÆ.

129. *Sphyræna barracuda* (Walbaum).

A few small specimens taken at Natal.

FAMILY HOLOCENTRIDÆ.

130. *Holocentrus ascensionis* (Osbeck).

A few specimens of this brilliant fish were taken in the tide-pools at Natal. In life it is very resplendent with metallic golden-red and coppery

color having brassy reflections. The under parts are clear white, and the side is crossed with longitudinal light pearly stripes. A white stripe runs back from the maxillary to below the base of the preopercular spine, involving the upper half of the maxillary. The vertical limb of the preopercle is edged with white. The dorsal spines are light yellow, and the membrane between them is pink. The other fins are pinkish, and the iris is dark red.

FAMILY SCOMBRIDÆ.

131. *Scomberomorus cavallo* (Cuvier and Valenciennes).

This species is common in the market at Pará, where several specimens about a foot in length were obtained.

These specimens do not have fewer dorsal spines than *S. maculatus*, as alleged by Week and Newland (Proc. Acad. Nat. Sci. Phila. p. 233, 1884), nor is the spinous dorsal without a black blotch anteriorly, as stated by Jordan and Evermann (Fishes of N. and Mid. Am., p. 875). Compared with *S. maculatus* the teeth are much more compressed and wider at the base in the mandible and not so numerous, there being only 8 or 10 on each side. The species may be most readily recognized by the very short, scarcely developed, gill-rakers which are less than half the pupil in length.

132. *Scomberomorus maculatus* (Mitchill).

A single large specimen was taken in Natal.

FAMILY TRICHIURIDÆ.

133. *Trichiurus lepturus* Linnaeus.

Only a single specimen, a couple of feet in length, was taken at Pará. but it is an extremely common species, especially at Ceara. Great quantities of them are dried and they may be seen in the stores at Ceara and Natal in big bales corded together like so much firewood.

The bones are subject to hyperostosis, or a deposition of bone cells on the surface of the normal bones until they are several times their ordinary size. It appears in the form of tubercles, or abrupt enlargements of irregular size scattered over the interspinous bones at irregular intervals, and not confined to certain bones as appears to be the case among the species of the family Carangidæ.

The specimen at hand resembles *Evoxymetopon taniatus* Poey in color but in no other respect. There are conspicuous orange-colored longitudinal

lines on the body; one at the base of the dorsal; two narrow pale ones above the middle of the side; one wide, dark and well-marked one parallel to the lateral line; the fifth one following the lateral line; and two narrow ones on the lower part of the side.

FAMILY CARANGIDÆ.

134. *Oligoplites saurus* (Bloch and Schneider).

A few small specimens were seined at Natal.

135. *Oligoplites saliens* (Bloch).

Several specimens of this species were taken at Pará.

The following key to the species of *Oligoplites* is founded upon specimens in Stanford University. All of the species are represented by an abundant number of specimens except *Oligoplites altus* and *Oligoplites refulgens*, of which only a single well-preserved specimen of each is available.

Key to the Species of *Oligoplites*.

- a Top of head everywhere densely covered with pores opening into short canals ramifying beneath the skin.
- b Depth from $2\frac{3}{4}$ to 3 in length; body angulated at front of soft dorsal and anal; outer mandibular teeth conical and no more crowded or movable than other teeth; the band of mandibular teeth not so wide; maxillary reaching considerably past the eye.
 - mundus.*
- bb Depth $3\frac{2}{5}$ in length; body scarcely angulated; outer mandibular teeth crowded, slender and movable, projecting above other teeth and laterally flattened; the band wider; maxillary reaching but slightly past eye.
 - altus.*
- aa Top of head without pores or only a few at the side running forward from above opercle, but never any medially on top of head between eyes or on snout.
 - c Maxillary reaching to middle of eye; depth equal to length of head; side abruptly silvery below a double dark stripe on back.
 - refulgens.*
 - cc Maxillary reaching to posterior border of eye or beyond; depth greater than length of head, the dark color of back more gradually merging into the silvery color of side.

- d A well-developed membrane connecting anterior part of branchiostegal membranes; posterior half of maxillary gently and evenly curved downward; maxillary reaching past eye in specimens over 7 inches long; depth $3\frac{1}{4}$ to $3\frac{1}{3}$. *saliens.*
- dd No membrane between branchiostegal membranes*; maxillary straight to its posterior fourth, then rather abruptly curved downward; maxillary not reaching past eye; depth $3\frac{3}{4}$ to $3\frac{1}{4}$. *saurus.*

136. *Caranx hippos* (Linnaeus).

Several specimens were taken at Pará.

137. *Caranx crysos* (Mitchill).

A single specimen was collected at Natal.

138. *Hemicaranx amblyrhynchus* (Cuvier and Valenciennes).

A single specimen, 8 inches in length, was taken at Pará. There can be little doubt but that this is referable to the above species, but there are several discrepancies between it and the description published by Jordan and Evermann (Fishes of N. and Mid. Am., p. 912). The head is $3\frac{4}{5}$ in length. Fifty scutes may be counted if the extremely small ones are included at each end of the straight part of the lateral line. The maxillary reaches a little past the front of the pupil (not "the front of the orbit"); the caudal lobes are equal. The arch of the lateral line is contained $2\frac{1}{2}$ times in the straight portion (not 3 times). The pectoral is considerably longer than the head and reaches well past the front of the anal. In all of these respects the specimen at hand resembles the plate by Cuvier and Valenciennes.

FAMILY APOGONICHTHYIDÆ.

139. *Amia brasiliiana* (Gilbert).

A few specimens taken in the tide pools at Natal, from 1 to $3\frac{1}{2}$ inches in length. They agree perfectly with the description of the type. They lack the caudal spot of *Amia imberbis*, but in the smallest ones there is a dusky, wide, transverse band across the caudal peduncle, though this does not resemble the spot in the middle of the peduncle of *A. dovii*. They all have the opercular spot, and the small ones have a black spot in line with it behind the eye.

* Occasionally a very slight narrow membrane is present, but nearly always it is entirely absent, and it is never well developed as in *O. saliens*.

FAMILY CENTROPOMIDÆ.

140. *Centropomus mexicanus* Bocourt.

Specimens of what are apparently referable to this species were taken at Pará, Natal, Lake Extremoz and Lake Papary. The lateral line is usually slightly dusky as in the picture published by Vaillant and Bocourt (Miss. Sci. Mex. 1875, Pl. I) except in a large individual (14 inches long) where a dark spot above and below the pore on each scale gives the line a distinctly darker appearance, or in others where it is nearly colorless.

Centropomus constantinus Jordan and Starks is synonymous with this species. It was separated chiefly on account of its lateral band being colorless, its dorsal spines more slender and shorter, and its body deeper. In all of these characters it falls within the range of variation of the specimens at hand. The type of *C. constantinus* has a slightly shorter anal spine than the others, but the difference is not of sufficient value to separate the species.

Doctor Boulenger has united *C. mexicanus* with *C. parallelus* Poey, but if the latter was correctly described as having 90 series of scales it seems scarcely probable that it can be the same. In the large numbers of specimens of *C. mexicanus* at hand the variation is only between 68 and 73.

141. *Centropomus undecimalis* (Bloch).

This species is common in Lake Papary, where several specimens were taken.

FAMILY SERRANIDÆ.

142. *Cephalopholis fulvus* (Linnaeus).

Two specimens from Natal represent both the brown type of color with blue spots (*Bodianus fulvus punctatus*) and the scarlet type with black spots (*Bodianus fulvus ruber*.)

143. *Epinephelus adscensionis* (Osbeck).

Three small examples taken at Natal.

144. *Promicrops guttata* (Linnaeus).

One specimen, a foot in length, was taken at Pará. As compared with a specimen of similar size from Jamaica the head is a little shorter, and the eye a little larger. The greater length of the head in the Jamaica specimen is all in the postorbital region.

145. *Rypticus coriaceus* (Cope).

Two small specimens were collected at Natal. Dr. Boulenger has placed this species, perhaps correctly, in the synonymy of *Rypticus sapo-*

naceus. Comparing the specimens at hand with some specimens of the latter species from Jamaica considerably larger in size they are somewhat more slender, darker and more uniformly colored. One of them, however, has 3 opercular spines on one side as in the typical *R. saponaceus* and 2 on the other, while the other specimen has 2 on each side. There is little difference in the connection of the dorsal fins between the two species. The lower of the preopercular spines is the longer.

FAMILY LUTIANIDÆ.

146. *Lutianus griseus* (Linnaeus).

A single specimen was taken at Natal.

147. *Lutianus jocu* (Bloch and Schneider).

A specimen from Natal and one from Pará.

148. *Lutianus apodus* (Walbaum).

Several specimens were taken at Natal, all of which are deep reddish brown with wine-color on the lighter parts, and have the dark-ringed spots on the cheek as described by Doctor Gilbert (Wash. Acad. Sci. Vol. 2, 1900, p. 170) for specimens from Maceio, Brazil.

149. *Lutianus analis* (Cuvier and Valenciennes).

A single adult and a few small ones were taken at Natal.

150. *Lutianus synagris* (Linnaeus).

Several specimens were collected at Natal.

FAMILY HÆMULIDÆ.

151. *Hæmulon parra* (Dasmarest).

A large specimen was collected in the market at Natal, and the young were commonly taken in the tide pools.

152. *Hæmulon steindachneri* (Jordan and Gilbert).

Two small specimens were taken in the tide pools at Natal.

153. *Hæmulon plumeri* (Lacépède).

This is a common species at Natal, where 3 specimens were collected.

154. *Anisotremus virginicus* (Linnaeus).

A single small specimen from Natal.

155. *Genyatremus luteus* (Bloch).

A small specimen, 2 inches long, was taken in a tide pool at Natal. It differs from one 6 inches long from Bahia (Albatross Collection) in having the preopercular teeth much coarser, or about 12 of them rather than 21 as in the larger one, the caudal truncate, rather than concave, the posterior outlines of the dorsal and anal more nearly vertical, and in having 6 wide, dark cross bars in the side.

FAMILY SPARIDÆ.**156. *Calamus calamus* (Cuvier and Valenciennes).**

Several specimens were taken by a steam trawler a few miles off Natal. In life this species is a bright silvery with delicate blue, green and yellow reflections most conspicuous on the snout. A clear blue streak runs from the upper end of the gill opening forward below the eye. (In preserved specimens this shows as a dark blue streak below the eye, but not extending past the eye either before or behind). Below this, running forward on the preopercle, are several pale blue, obscure, wavy lines. Sometimes these are dusky blue and run together more or less, forming a net-work around the gold and silvery color, as described in current descriptions. Many of the scales are bright blue at the center, making faint longitudinal lines.

157. *Archosargus unimaculatus* (Bloch).

A single small specimen was taken at Natal.

FAMILY GERRIDÆ.**158. *Eucinostomus pseudogula* Poey.**

Specimens collected at Natal and Lake Papary. Among the former is one with only two anal spines that differs in no other respect from its fellows.

159. *Eucinostomus harengulus* Goode and Bean.

A few small specimens taken at Natal.

160. *Eucinostomus gula* (Cuvier and Valenciennes).

A single small specimen was collected at Lake Papary.

161. *Ulæma lefroyi* (Goode).

This species, though unrecorded from Brazil, is not uncommon at Natal, where several small specimens were taken. The young are marked with irregular, oblique, broken blotches on the back extending forward and downward to the middle of the side.

162. *Xystæma havana* Nichols.

Six specimens, up to 6 inches in length, collected at Natal and described in my manuscript as new are referable to this species, the description of which has just appeared. I publish my description as it stands, however, as it contains some additions to Mr. Nichols' description (Notes on Cuban Fishes. Bull. Am. Mus. XXXI. p. 189, Aug. 1912).

The head is sharp and the body is symmetrical, with no angles and scarcely elevated. The length of the head is contained $3\frac{1}{4}$ times in the length to the caudal base, and the depth 3 times. The diameter of the eye is a little greater than the length of the snout and is contained from $2\frac{4}{5}$ to 3 times in the head. The premaxillary groove is very well defined and narrow, being only a trifle more than half of the pupil at its widest part; anteriorly it becomes constricted and sometimes nearly closed. The cheek from the eye to the preopercular angle is equal to the diameter of the eye, and the least distance backward from the eye is equal to one-third of the eye. The preopercular and preorbital margins are entire.

The fin formula is, dorsal IX, 10; anal III, 7 or 8. The second dorsal spine is equal in length to the distance from the front of the eye to the upper angle of the gill opening. The second anal spine is equal in length to the third but is very much stouter; it is a little longer than the eye. The pectoral does not nearly reach to the anal. There are 45 cross series of scales, and $3\frac{1}{2}$ longitudinal series between the lateral line and the middle of the dorsal.

The color is plain silvery except in the young of 2 or 3 inches in length, where dusky lines follow the rows of scales longitudinally.

This species has the typical long simple first interhæmal that distinguishes *Xystæma* from *Eucinostomus*, but in external characters it is strikingly like *E. pseudogula*. The spines, however, are always stouter and less flexible at the tips, and the premaxillary groove is constricted in front. It differs from *Xystæma cinereum*, its nearest relative, in being more slender, in having a very narrow premaxillary groove, which is convergent anteriorly rather than broad and divergent, in having no cross bars, and in other minor characters.

163. *Gerres brasiliæ* (Cuvier and Valenciennes).

Several specimens were taken in Lake Papary and one at Natal.

164. *Gerres rhombeus* Cuvier and Valenciennes.

Specimens were collected at Lake Papary and Natal. Those from Natal are much darker in color and show traces of dark stripes along the

rows of scales, while those from the lake are almost entirely colorless in alcohol.

165. *Gerres olisthostomus* Goode and Bean.

Specimens were taken at Natal and Lake Papary. Those from Natal are darker, the young have 4 or 5 narrow vertical cross bands on the middle of the side, and in addition, lighter longitudinal bands following the rows of scales. No trace of cross bands is on the Papary specimens, though the others are evident.

FAMILY POLYNEMIDÆ.

166. *Polydactylus virginicus* (Linnæus).

This fish was found in abundance about Natal.

FAMILY SCIÆNIDÆ.

167. *Cynoscion microlepidotus* (Cuvier and Valenciennes).

This species is apparently common at Pará, as several specimens were collected in the market.

They agree very well with the description published by Steindachner, but show the following differences. The interorbital space (bone only) is contained from $4\frac{3}{4}$ to 5 times in the head. The maxillary usually scarcely reaches to the posterior margin of the orbit, but in the largest specimens, a foot in length, it reaches to the margin. The vertical fins are covered with small, thin, inconspicuous scales but they can scarcely be said to be thickly covered, not, at any rate, as compared with *Cynoscion squamipinnis*.

168. *Cynoscion leiarchus* (Cuvier and Valenciennes).

Two specimens were collected at Pará. This species resembles *Cynoscion phoxocephalus* most closely. The head is more compressed, the caudal is weakly double concave rather than simply concave, the eye is larger, the postorbital part of the head not so long, and the posterior outline of the anal is not so oblique.

169. *Cynoscion phoxocephalus* Jordan and Gilbert.

A single large specimen of this species was taken at Natal. It has been compared with specimens from Panama and no important differences appeared. The body and head are a trifle deeper, and it has 23 dorsal rays rather than 21. This form has heretofore been known only from Panama Bay.

170. *Sagenichthys ancylodon* (Bloch and Schneider).

Sagenichthys mordax Gilbert and Starks (Mem. Cal. Acad. Sci. IV., 1904).

Three specimens from 7 to 8 inches in length were collected at Pará, which enable me to compare directly, for the first time, this species with *Sagenichthys mordax* from the Pacific.

When *Sagenichthys mordax* was described it was compared with current descriptions of *S. ancylodon* and from these it appeared to differ in having larger scales in the lateral line, smaller scales on the rest of the body, and shorter gill-rakers. All of these characters have been inaccurately described for *S. ancylodon* and a direct comparison of the specimens from both coasts fails to show any specific differences. There are about 100 oblique series of scales above the lateral line in *S. ancylodon* (not 85) and half as many scales on the lateral line (not 75). The gill-rakers are one-third of the diameter of the eye (not two-thirds). The specimens from Pará have a somewhat larger eye than those from Panama, but the difference is not too great to be accounted for by the difference in size of the specimens.

171. *Nebris microps* Cuvier and Valenciennes.

Four large specimens of this species were taken at Pará, each of them a little over a foot in length. This makes a direct comparison between this species and its representative in the Pacific, *Nebris occidentalis* Vaillant, for the first time possible.

Comparing them with some specimens from Panama of similar size the mandible is strikingly weaker and does not protrude nearly so much, lacking the large, sharp process at the symphysis. The lips are thinner and the mouth is less oblique. There are 95 series of scales above the lateral line, counting the nearly vertical series, and 11 scales between the lateral line and the front of the soft dorsal. These counts in *Nebris occidentalis* are respectively 115 and 20. The scales on the belly are very much larger in *Nebris microps*. The pectoral is shorter, or $1\frac{1}{2}$ in the head, while in the other species it is almost equal to the head. The radiating striations on the preopercle are not nearly so coarse and do not end in such coarse pectinate processes. The body is marked with 6 or 7 wide, conspicuous, dark cross bars, which are not evident in *Nebris occidentalis* and have not been described.

The following is the color of fresh specimens. The back is dusky drab, with wide, nearly black, cross bars, anteriorly not so wide as the interspaces, posteriorly more crowded and equal to them. There is a trace of one over the opercle, one under the spinous dorsal, four under the soft dorsal, the first

of which is under the 8th to the 11th rays, and the last under the last rays, and one across the caudal peduncle. The lower parts are very bright chrome yellow, or sometimes deep orange, being brightest on the head. The ventrals, pectorals and anal are bright yellow or orange, the first two growing coal black toward their points, and the anal dusky with dots. The dorsal rays grow dark toward the edge of the fin, and the caudal is slightly yellow, obscured by dark points.

172. *Plagioscion squamosissimus* (Heckel).

Several specimens were collected at Pará, the largest 9 inches in entire length.

This species may readily be separated from *Plagioscion auratus* and *Plagioscion surinamensis* by the short, slender, second spine of the anal, which is contained from $3\frac{1}{2}$ to $4\frac{1}{2}$ times in the head, and is about as thick as the distance from the front of one anal ray to the front of the next, or scarcely wider than the ventral spine. In the other two species it is twice or more times wider than this. In the mandible there is a row of small, fine, sharp teeth, and just inside of them is a row of from 7 to 10 widely spaced canines, many times larger than the outer row. The two rows are so closely approximated that they appear like a single row with a tooth enlarged at intervals. In the premaxillary there are two rows similar in size to the lower teeth, but the outer row is the large row in this case, instead of the inner, and the rows are more distinctly separated. The differences in size between the teeth in this species is much greater than in the other two species here considered, or in other words, the enlarged teeth are much more enlarged.

TABLE OF MEASUREMENTS EXPRESSED IN HUNDREDTHS OF LENGTH.

Length in mm. to caudal base.....	181	174	125
Head in 100ths of length.....	31	32	32
Length of maxillary.....	15	15	15
Long diameter of eye.....	5	$5\frac{1}{2}$	$5\frac{1}{2}$
Width of interorbital space.....	7	7	7
Length of snout.....	8	8	8
Length of pectoral.....	25	23	23
Length of ventral.....	21	21	22
Length of second anal spine.....	9	9	9
Width of second anal spine.....	1	1	1
Length of fourth dorsal spine.....	13	13	13
Length of caudal.....	26	25	26
Number of dorsal rays.....	X-I, 34	X-I, 32	X-I, 33
Number of anal rays.....	II, 6	II, 6	II, 6

173. *Plagioscion auratus* (Castelnau).

Several specimens from 4 to 15 inches in length were collected at Pará in the market. These are all very much darker than the other two species at hand, with the exception of one 6 inches long, and, to a less degree, one twice as long. The darkest ones are almost black on the back, the head, and all of the fins, and dark dusky on the lower parts. The lightest one is slightly dusky on the back, the dorsals and caudal; the balance is without color, the color being as in the other two species.

This species may be known from *Plagioscion surinamensis* by the smaller elliptical eye, not so near the anterior profile; the wider, more convex, inter-orbital space, which is from half again as wide as the vertical diameter of the eye to twice as wide. The snout is a little more produced, and the lower jaw is always included. The length of the pectoral is equal to the distance from the tip of the snout to the preopercle. The first ray of the ventral, in all sizes, is filamentous and projects beyond the other rays about one diameter of the eye. The gill-rakers number 10 or 11. Other differences are indicated under the description of *Plagioscion surinamensis* and in the tables of measurements.

TABLE OF MEASUREMENTS EXPRESSED IN HUNDREDTHS OF LENGTH.

Length in mm. to caudal base.....	260	251	133
Head in 100ths of length.....	28	28	30
Length of maxillary.....	13	13	14
Long diameter of eye.....	4	4½	5½
Width of interorbital.....	8	8	8
Length of snout.....	7½	7½	8
Length of pectoral.....	19	20	21
Length of ventral without filament.....	20	20	21
Length of second anal spine.....	12	12	14
Width of second anal spine.....	2	2	2
Length of fourth dorsal spine.....	12	12	14
Length of caudal.....	25	25	26
Number of dorsal rays.....	X-I, 34	X-I, 35	X-I, 36
Number of anal rays.....	II, 6	II, 6	II, 6

174. *Plagioscion surinamensis* (Bleeker).

A few small specimens and one large one, a little over a foot in length, were collected at Pará. They are all very light in color; only slightly dusky above and on the edges of the dorsal fins. This species appears from literature to be much more rare than the other two here reported upon, and it was not found nearly so abundantly in the market during our stay at Pará.

It may be readily known from *Plagioscion auratus* (Castelnau) by the larger, rounder eye nearer to the anterior profile; by the narrower inter-orbital space, which is less in width opposite the middle of the eye than the vertical diameter of the eye; by the snout which does not overhang the mouth so much, the lower jaw being scarcely, or not at all included; by the longer pectoral, which is equal in length to the distance from the tip of the snout to a point on the opercle midway between the preopercle and the gill opening; by the first ray of the ventral, which, though a trifle longer than the other rays, does not end in a filament. It has 2 or 3 more gill-rakers on the lower limb of the arch, or 12 or 13; the preorbital is a little narrower, the second anal spine a little longer, and the scales on the inter-orbital space are ctenoid a little farther forward. Little difference exists between these two species in the character of the teeth. The character of the interorbital space will the most readily separate them.

Most of these differences are well shown by the drawing of the type of *Plagioscion auratus* and the drawing published by Steindachner of *Plagioscion surinamensis* (Fische-Fauna des Magdalenen-Stromes. Pl. I), though there are also many differences there shown that do not exist owing to the inaccurate drawing of the former species.

TABLE OF MEASUREMENTS EXPRESSED IN HUNDREDTHS OF LENGTH.

Length in mm. to caudal base.....	250	128	115
Head in 100ths of length.....	32	34	32
Length of maxillary.....	15	15	15
Long diameter of eye.....	6	7	7
Width of interorbital space.....	5	5	6
Length of snout.....	7	8	7
Length of pectoral.....	26	25	24
Length of ventral.....	25	22	23
Length of second anal spine.....	14	14	15
Width of second anal spine.....	2	2	2
Length of fourth dorsal spine.....	14	13	15
Length of caudal.....	23	25	26
Number of dorsal rays.....	X-I, 33	X-I, 32	X-I, 33
Number of anal rays.....	II, 6	II, 6	II, 6

175. *Bairdiella armata* Gill.

A single specimen was taken in the market at Pará. Comparing it with specimens from Panama the snout is not so sharp, the spines of the preopercle are more blunt and wider at the base, the mouth is a little more oblique and more curved, the gill-rakers below the angle of the first arch number 16 rather than 13, and the second anal spine is a trifle longer. It appears probable that with more material the Atlantic form may be separable

188. *Halichoeres irideus* Starks, new species.

Plate 8.

The head is contained from $3\frac{1}{4}$ to $3\frac{1}{2}$ times in the length to the base of the caudal, and the depth from $3\frac{3}{4}$ to 4 times. The eye is equal in diameter to the interorbital bone (though the interorbital space is somewhat wider) and is contained 5 times in the head. The snout is contained from $2\frac{3}{5}$ to 3 times.

The fin formula is, dorsal IX, 11; anal III, 12. The pectoral usually reaches well past the ventral to opposite the vent. Its length is contained $1\frac{1}{2}$ times in the head. The ventrals are sharp-pointed but not filamentous. The caudal is slightly rounded, but conspicuously angulated at the tips of the outer rays. The front of the anal is midway between the middle of the eye and the base of the caudal, or varying from the former point to the front of the eye. The lateral line is on 28 scales, and the pores are trifurcate. The scales in front of the dorsal are not reduced in size, and do not cover the median line of the back.

In life the colors of this species are particularly brilliant. The ground color of the side of the head and anterior part of the body is clear yellow, which gradually changes to green posteriorly, then to electric blue, and to a brilliant darker blue on the caudal, while dorsally the color of the body shades into brownish orange, and ventrally into lavender. Two narrow, longitudinal, brilliant orange stripes cross the lower part of the side. A bright blue stripe runs from the snout to the eye, and two run from the eye to the nape. The lower jaw is lavender. A large coal-black spot almost as wide as the eye and twice as long is about equally on the base of the first dorsal rays and the back. A smaller one is on the base of the last two rays and the back. This is much more conspicuous than in other species that have a spot under the last ray. A third one is on the last scales at the base of the caudal just above the middle caudal rays. All of these spots are conspicuously ocellated with blue. The dorsal is marked with longitudinal stripes of blue and orange, and the anal with blue and pinkish color.

In alcohol the ocellated spots are very clear black and plain. A black dot is on the upper part of the pectoral base, and two dark brown stripes run irregularly from the eye to the nape. The two stripes on the lower part of the side are scarcely, or but slightly, evident. The median caudal rays are dusky, and the other fins are almost colorless.

The species may be at once known from all other American species by the large, black, ocellated spots on the back.

Five specimens, ranging in size from 3 to 5 inches in length, were collected in the rock pools at Natal.

189. *Halichoeres poeyi* (Steindachner).

One specimen, 4 inches in length, was taken in a tide pool at Natal. In alcohol it is marked as follows: The body is light and some of the scales above the middle of the side are dark brown at the base and are clustered into more or less definite blotches. One of these blotches is just behind the opercular flap, another is above the end of the pectoral, and posteriorly two or three of them are run together. A large dark spot is behind the eye, a small one is at the base of the last dorsal ray, and another is on the upper edge of the pectoral base. The fins are all abruptly colorless.

FAMILY SCARIDÆ.

190. *Sparisoma frondosum* (Cuvier).

A rather common species in the tide pools about Natal.

191. *Scarus croicensis* (Bloch).

A single small specimen, slightly less than 2 inches in length, taken in a tide pool at Natal, seems referable to this species, agreeing in all characters but the color of the teeth, which are green as in the sub-genus *Pseudoscarus*.

FAMILY EPHIPPIDÆ.

192. *Chætodipterus faber* (Broussonet).

Three specimens were taken in the market at Pará, one of them very large, with a gibbous forehead caused by hyperostosis. In one only 10 inches in length the bones of the frontal and occipital region have become greatly thickened. These specimens scarcely show any cross bars. Comparing them with some of similar size from Jamaica they are much lighter in color, and the dorsal and anal rays are not so much produced.

FAMILY CHÆTODONTIDÆ.

193. *Holocanthus tricolor* (Bloch).

A small specimen was collected at Natal.

194. *Pomacanthus paru* (Bloch).

A specimen 8 inches long was taken in deep water by the trawl off Natal. The discrepancies in the description published by Jordan and Evermann (Fish. N. and Mid. Am., pp. 1679-1680) have led me to make an ex-

amination of our available material of *Pomacanthus* from the Atlantic. These separate easily into two species as in the following key.

(a) Caudal truncate, or lunate in large specimens, with outer angles sharp and a broad white border behind; dorsal spines 8 or 9; small scales crowded in about larger ones, all of them with a light posterior border, but the larger ones most conspicuous; no white lines from eye to nostril; no large light spot on pectoral base. *P. arcuatus* (Linnæus).*

(aa) Caudal broadly rounded and scarcely or bluntly angulated at the outer rays, and with a very narrow or no white margin; dorsal spines 10; scales more nearly uniform in size and only part of them with a light border (those corresponding with the large scales of the other species); a light bar from eye to nostril; and a light spot on base of pectoral.

P. paru (Bloch).

Of *P. arcuatus* we have 7 specimens, from 5 to 12 inches long, from Brazil and the West Indies. Of *P. paru* we have 5 specimens, from 5 to 7 inches long, from the same localities.

In Jordan and Evermann's description of the first species the dorsal spines and the color are correctly described, but the caudal is incorrectly said to be rounded. There is said (correctly) to be no pale stripe before the eye, but in the description of *P. paru*, *P. arcuatus* is said to have a "white stripe from the eye to nostril," and the caudal is said to have no pale edge. In the last description *P. paru* is first said to have the caudal truncate and farther on in the same description it is correctly said to be rounded.

The following is the color in life of the specimen of *P. paru* from Natal. The ground color is dark lead-color, nearly black, with scales at regular intervals edged with canary-yellow, making the flesh appear as if it had much larger scales than it has. The iris, preopercular spine, and a large blotch at the caudal base are bright yellow. The upper jaw is dusky yellow, and the lower jaw light. The cross bars on the body and fins are bright yellow.

FAMILY ACANTHURIDÆ.

195. *Hepatus hepatus* (Linnæus).

Several specimens were taken by the trawl boat from deep water, and the young were abundant in the rock pools about Natal. The following is the color in life. The body is dusky yellowish above and slaty brown below. Narrow vertical dark bars cross the side, and narrow yellow and blue streaks run forward and backward from the eye and merge into the ground color of

* If either of the species here considered is to be identified with *P. arcuatus* it must be this one, for the only differential character Linnæus gives is the number of dorsal spines, though the other species has been in the past so identified.

the body. A bright blue spot surrounds the caudal spine. The dorsal has wavy longitudinal streaks of light blue, or lavender, and light yellow. The anal is dark blue edged with light blue, and the caudal is tinged with blue. The ventrals are dark brown, nearly black. The young has all of the vertical fins edged with bright blue, and a broad, light diffused stripe crosses the caudal peduncle.

FAMILY BALISTIDÆ.

196. *Balistes vetula* Linnæus.

Specimens were taken at Natal.

FAMILY MONACANTHIDÆ.

197. *Monacanthus hispidus* (Linnæus).

One specimen was procured at Natal.

198. *Monacanthus ciliatus* (Mitchill).

A single specimen taken at Natal.

199. *Alutera punctata* Agassiz.

Three specimens, from 15 to 17 inches in length, were caught in a trawl in deep water. The head, from the upper end of the gill opening, is contained from $3\frac{1}{3}$ to $3\frac{3}{5}$ times in the entire length to the caudal; the depth is from $2\frac{1}{6}$ to $2\frac{1}{4}$ times. The dorsal numbers 36 or 37, and the anal 38 or 39. In life they were dark slate-color, with small yellow spots scattered over the side.

Comparing these with a specimen of similar size of *Alutera schæpfi* from Florida, the latter is found to be rougher, with enlarged sharp spinules scattered among the finer ones; the double curve from the tip of the snout to the dorsal spine is much more pronounced, and the color is very much lighter, or almost white, with considerable silvery pigment and no spots.

FAMILY OSTRACIIDÆ.

200. *Lactophrys tricornis* (Linnæus).

A couple of specimens from Natal.

FAMILY TETRAODONTIDÆ.

201. *Spheroides testudineus* (Linnæus).

This fish is as common at Natal as it is reported to be throughout its range. There is an astonishing variation in the size of the eye.

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FAMILY DIODONTIDÆ.

202. *Ohlomycterus antillarum* Jordan and Butter.

The dried skin of what appears to be this species was picked up on the beach at Natal.

FAMILY SCORPÆNIDÆ.

203. *Scorpæna plumieri* Bloch.

A few large specimens were taken in the tide pools at Natal. In life this species is elaborately mottled with purplish wine-color, reddish brown, and sienna, on a light drab and slightly greenish ground color. The breast and belly are cherry-red, with many small white points. The caudal fin is crossed by three dark brown blotches. A red blotch is at the base of the pectoral, and the pectoral is light red with cross bars of reddish brown. The inner surface of the pectoral is jet black at the base, with several sharp-cut, very conspicuous, milk-white spots, a yellow area across the middle of the rays, and wine-color distally.

FAMILY GOBIIDÆ.

204. *Dormitator maculatus* (Bloch).

A number of specimens up to five inches in length were collected at Lake Papary, and a couple from a pond in a deserted part of the park at Ceara.

The males have the dorsal and anal higher than the females, but in none of the Papary specimens are the longest dorsal rays nearly as long as the head, while in one of the Ceara specimens (5 inches in length) the last dorsal and anal rays broadly overlap the caudal, and the longest dorsal ray is considerably longer than the head. It differs further in having a more definite white border to the dorsal and anal.

The following color note was taken from a fresh Papary specimen. The body and head are dark brown, shading to green above and with the sides washed with blood-red. The side of the head has a green tinge, and light brown bars radiate from the eye. Bright green shades are in front of the pectoral, and a blackish blotch is at the caudal base. The dorsals have oblique brown bars on the mebrane, but these do not involve the rays. The anal is dark brown spotted with white and narrowly margined with white. The ventrals and pectorals are dusky.

205. *Eleotris carvalhonis* Starks, new species.

Plate 9.

The top of the head between the eyes is but little compressed. A rather thick layer of muscle lies between the skin and the bone in this region, while in *Eleotris perniger*, its nearest relative, the interorbital area is much depressed and flattened, leaving the maxillary process protruding, and the skin lies directly upon the bone. The head is contained from 3 to $3\frac{1}{4}$ times in the body length. The eye is contained $2\frac{1}{2}$ times in the interorbital space and 2 times in the snout. The mouth is very oblique, and the maxillary scarcely reaches to below the middle of the eye. The teeth are in slightly narrower bands than in *E. perniger*, and scarcely so much enlarged at the side of the mandible. The gill-rakers, though only one or two more in number, are much more widely spaced.

The fins are very similar to those of *E. perniger*, except that all of them are more posteriorly placed in relation to the tip of the snout. The dorsal numbers VI-10, and the anal 9 or occasionally 10. The spinous dorsal is nowhere angulated in outline, and when the fin is reclined the tips of the longest spines barely touch the base of the first ray of the soft dorsal. The dorsal rays increase in length backward, and the last one is half as long as the head. The anal is more rounded posteriorly than the dorsal, the last ray not being so long as the next to the last. The ventrals reach half way or more between their base and the anal.

The scales are ctenoid on the body and cycloid on the head. There are from 60 to 63 in a longitudinal series as in *E. perniger*, but the number from the front of the anal in a series running up and back to the dorsal is 14 or 15, while in the other species they number 17 or 18.

The color in life is dark brown, with darker longitudinal lines following the rows of scales. Sometimes the body is so dark (almost black) that the lines do not show. The belly is lighter than the side, and lighter than the under parts of the head, which may sometimes be very dark. There are fine yellow and black lines across the dorsal and caudal rays, but the other fins are uniformly dusky or sometimes nearly black.

This species differs from *E. perniger* particularly in the fewer cross series of scales, the larger head, and the greater distance of the fins from the tip of the snout.

The specimens of *E. perniger* with which these were compared came from Jamaica.

Seven specimens, from $4\frac{1}{2}$ to 6 inches in entire length, were collected in Lake Papary.

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I take pleasure in naming this species for Colonel José Joaquim de Carvalho e Araujo, whose influence and kind hospitality made our stay at Lake Papary possible.

TABLE OF MEASUREMENTS EXPRESSED IN HUNDREDTHS OF LENGTH,
SHOWING COMPARISONS BETWEEN *ELEOTRIS CARVALHONIS*
AND *ELEOTRIS PERNIGER*.

SPECIES	<i>E. perniger</i>			<i>E. carvalhois</i>						
Length to caudal in mm.....	124	132	141	117	110	107	98	102	93	98
Head in length.....	35	37	38	32	32	31	32	32	31	30
Eye.....	5	5	5	4	4½	4½	5	4½	5	4½
Maxillary.....	14½	15	15	13	13	13	14	13	13	13
Interorbital space....	9½	9	10	10	10	10½	10½	9½	10½	10
Dorsal to snout.....	45	47	47	41	41	42	41	42	42	41
Ventral to chin.....	36	38	36	33	32	34	34	32	33	32
No. of gill-rakers....	7	6	7	9	8	8	8	8	8	8

206. *Erotelis smaragdus* (Cuvier and Valenciennes).

A few specimens of this species, from 3½ to 5 inches in length, were seined in a large shallow pool in the sand near the mouth of the harbor at Natal. The pool was isolated from the bay except at high tide. The species was not found in seining elsewhere, or in the rock pools.

The preoperculum of this species has the hooked process as in *Alexurus armiger*, and it has as many unbranched accessory caudal rays (12 or 13). These being the characters upon which the genus *Alexurus* is based it becomes invalid, and *armiger* should be referred to the genus *Erotelis*.

A few specimens of *E. smaragdus* from Havana, Cuba, were examined in this connection, as well as the type and the only other known specimen of *E. armiger*. In the Havana specimens the preopercular spine was not so easily seen, the specimens being small, but dissecting the skin away made it very evident. The specific differences between these two are slight and of minor importnace, and they may prove to be identical, but to pass definitely upon this will necessitate more and better material than this at hand.

207. *Awaous talasica* (Lichtenstein).

A single specimen was taken at Lake Papary. The following are its life colors. The ground color is yellowish, with golden and greenish reflections about the head. Irregular dusky spots are scattered over the back and

side of the body and head, on the latter taking the form of broken lines. The top of the head is black, and two dark lines run downward and forward from the eye. The dorsals and caudal are yellow, and dark spots on the rays form cross lines. Excepting a spot on the upper part of the pectoral base the other fins are colorless.

208. *Gobionellus stomatus* Starks, new species.

Plate 10.

The head is blunt with a sharply curved snout overhanging the mouth. The length is contained from $4\frac{1}{3}$ to $4\frac{1}{2}$ times in the length to the base of the caudal. The body tapers backward and ends in a long, pointed caudal fin. The depth varies from $5\frac{1}{2}$ to $6\frac{1}{4}$ in the length. The eyes stand slightly above the level of the head with a raised supraorbital rim, and they are narrowly separated by a bony interorbital space equal in width to that of the pupil. The diameter of the eye is contained 5 times in the head, and $1\frac{1}{2}$ times in the snout. The lower jaw is included, and the length of the maxillary, as in other large-mouthed gobies, is variable. It reaches to the posterior margin of the eye in the smallest specimens, and to one diameter of the eye past in the largest ones. The teeth are in narrow bands of about 4 rows in each jaw. In the upper jaw those in the outer row are enlarged, while in the lower jaw those of the inner row are enlarged. These tooth characters can best be appreciated in a dried specimen. The blunt snout forms a third, or sometimes a little less, of the length of the head.

The spinous dorsal is composed of 6 spines, and the longest ones are as long as the head. When the fin is depressed they reach slightly past the front of the soft dorsal. There are 13 dorsal rays in the soft dorsal, which is about three-fifths of the height of the spinous dorsal; they scarcely decrease in length posteriorly. There are 14 anal rays which increase in length posteriorly. The ventral reaches a trifle past the pectoral but not nearly to the anal. The length of the broadly rounded pectoral is from one-half to one diameter of the eye less than that of the head. The caudal is long and pointed, and its length is twice that of the head. The head is naked, and the scales on the body are fine and cycloid, and increase slightly in size backward. There are 58 transverse series of scales and 16 longitudinal.

The color in alcohol is light gray, with about 6 rather wide cross bars of dark slate-color on the side. Their upper ends run obliquely down and forward, but most of their length is vertical. They fade away a short distance below the middle of the side. Between the wider bars is usually a narrow, less conspicuous one. Often on the back are several oblique dark lines. The head is nearly always darker than the body, and is more or less

mottled with dark slate blue. There is a dark spot on the pectoral base in front. The fins, except the dorsals, are dusky, the ventral being darker than the others. The dorsals are crossed by many fine, dark oblique lines.

This species differs from the other gobies of this genus with lanceolate caudal fins in having cycloid scales.

Numerous specimens were taken with the seine in a large pool in the sand left by the high tide near the mouth of the harbor at Natal. A few were seined on the muddy mangrove tide flats, but none were found in the rock pools. They are from 4 to 5 inches in entire length.

209. *Mapo saporator* (Cuvier and Valenciennes).

This commonest of all tropical American gobies was found in abundance in the rock pools at Natal and Ceara.

210. *Otenogobius boleosoma* (Jordan and Gilbert).

Several specimens were taken in the rock pools at Natal, thus materially increasing the range of this species. It has been taken hitherto only at Pensacola, Florida. They have been compared with the cotypes.

211. *Otenogobius glaucofrænum* (Gill).

Three specimens of this goby were taken in the rock pools at Natal. Up to this time the species has been known only from the West Indies. They had no blue spots on the body or blue markings across the cheek such as was described for the type, or by Dr. Eigenmann for specimens from the Tortugas.

The following color notes were taken from living specimens. The ground color of the head and body is translucent flesh-color. Two rows of rusty red spots extend along the side at regular intervals, and another along the base of the dorsal fins. There are two black spots at the base of the caudal fin, which are more or less run together in a dumbel-shaped spot. A dark brown wavy band extends back from the snout through the eye to above the pectoral base, and a narrower one below it and parallel with it, from the snout across the cheek to the base of the pectoral. The caudal is pinkish, and the other fins are colorless, except the pectoral which is slightly yellow at the base.

212. *Microgobius omostigma* Starks, new species.

Plate 11.

The head is contained from $3\frac{1}{4}$ to $3\frac{1}{2}$ times in the length to the caudal base, the depth from 4 to $4\frac{1}{4}$ times, and it is twice that of the width. A fleshy ridge runs forward from the dorsal fin and ends at the occiput. The

eye is longer than the snout, contained $3\frac{1}{2}$ times in the head, and is two-fifths longer than the interorbital space. The mouth is very oblique. The maxillary reaches to under the middle of the eye, and is half of the length of the head. The teeth are in very narrow bands, with the outer ones enlarged and curved. The length of the dorsal spines is extremely variable, the longest spines reaching in one specimen nearly to the posterior end of the soft dorsal; in another to opposite the middle of the soft dorsal, and in another only a little past its front. The fin formula is, dorsal VII-18; anal 17. The pectoral is wide and broadly rounded, and its tip reaches a little past the front of the soft dorsal. The ventral scarcely reaches to the anal. The caudal terminates in a rather narrow point, much sharper than shown in the picture of *Microgobius meeki*. Its length is equal to the base of the anal, and is contained $2\frac{4}{5}$ times in the length of the body. The scales number from 45 to 48 and are finely ctenoid. The head and body anterior to the front of the spinous dorsal are naked.

The head and body are uniform dusky bluish, very slightly lighter below. The color consists of rather coarse dots. Just behind the head and above the pectoral is a rounded black spot encircled with a dark bar around its upper part, leaving a light ring between. The fins are uniform bluish, with the ventral sometimes very dark, and the soft dorsal, anal, ventral, and caudal with a narrow white margin.

Three specimens were collected, from $1\frac{1}{4}$ to $1\frac{1}{2}$ inches in length, in the rock pools at Natal. This species is related to *Microgobius eulepis* Eigenmann and Eigenmann and *Microgobius meeki* Evermann and Marsh. It differs from the former in having ctenoid scales, a compressed form, and in color. From the latter it differs in having a much smaller mouth, and a longer, more pointed caudal.

FAMILY ECHENEIDIDÆ.

213. *Remora remora* (Linnaeus).

A specimen taken at Natal.

FAMILY MALACANTHIDÆ.

214. *Malacanthus plumieri* (Bloch).

One large specimen, 18 inches in length, was collected at Natal. The interorbital space is twice as wide as the eye, which is contained 7 times in the head. In a specimen from Cuba, 9 inches long, the eye is contained $1\frac{1}{3}$ times in the interorbital space, or $5\frac{1}{2}$ times in the head.

FAMILY DACTYLOSCOPIDÆ.

215. *Dactyloscopus crossotus* Starks, new species.

Plate 12.

The head is conical, with the strongly projecting symphysis of the lower jaw forming its point. The length of the head (without the mandible) is contained $4\frac{1}{2}$ times in the entire length to the base of the caudal, and the depth of the body from $6\frac{1}{2}$ to 7 times. The mouth is moderately oblique, or on an angle of about 45 degrees; the maxillary reaches to opposite the posterior margin of the eye. The teeth are slender and inclined backward. They are in two rows on each jaw, and are a trifle larger on the lower jaw than on the upper. The eye is longer than the snout, twice as wide as the entire interorbital space, and is contained 7 times in the length of the head. There are from 9 to 12 opercular fringes.

The dorsal spines run imperceptibly into the rays, so that a microscope is necessary to distinguish them from each other. There are 12 spines and 29 articulated, unbranched rays. The anterior 4 spines are detached, the membrane of one spine scarcely reaching the base of the next; the fifth is slightly attached to the sixth, which in turn is broadly attached to the seventh as in the succeeding ones. The anal has 2 spines and 31 rays. Its origin is considerably behind the tips of the opercular fringes, which reach over the base of the pectoral, while in *Dactyloscopus tridigitatus* its origin is opposite the tips of the fringes.

There are from 40 to 44 transverse series of scales and 9 longitudinal series, counting at the tip of the pectoral. The head and breast are naked. The lateral line runs high anteriorly, there being only a scale and a half between the pore-bearing series and the dorsal. There are 12 scales in the anterior part of the lateral line, 3 in the descending portion, and 31 in the portion behind.

In life the body and head were translucent pink or flesh-color. In alcohol the color is white and very slightly dusky, with dark points above. The beginning of about 10 light cross bars are indicated on the back, but do not descend to the side. The fins are without color.

This species is not closely related to any other known form, but is probably closest to *Dactyloscopus tridigitatus* Gill, differing in having fewer opercular filaments, a much larger eye, a heavier, more protruding mandible, and the anal more posteriorly placed. It is more slender than any of the others.

A few specimens were taken in the sandy tide pools at Natal in company with *Dactyloscopus tridigitatus*. The type and largest specimen is just two inches in entire length.

216. *Dactyloscopus tridigitatus* Gill.

A few specimens of this form were taken in sandy tide pools on the open beach at Natal. It has not before been recorded south of the West Indies.

In life they are of a transparent flesh-color. When frightened they bury themselves in the sand.

FAMILY BATRACHOIDIDÆ.

217. *Batrachoides surinamensis* (Bloch and Schneider).

This species was rather common in the market at Pará. Comparing a specimen about 10 inches in length with one of similar size of *Batrachoides pacifici* (Günther), the eye is smaller, being contained 11 times in the length of the head, while it is contained 9 times in *B. pacifici*; the fin rays are less deeply incised; the cross bars on the body are much more conspicuous; the teeth are finer; the pairs of spines on the opercle and preopercle are closer together, and the interruption in the lateral lines is much greater. The alleged difference in the number of dorsal rays cannot be relied upon to separate these species, as *B. surinamensis* may have as few as 26, which is the usual number in the other.

I am now able for the first time to compare this species directly with *B. boulengeri* Gilbert and Starks. A specimen 14 inches in length, or an inch longer than the type of *B. boulengeri*, has a slightly sharper mandible projecting a little more. The eye is little if any smaller; the dorsal membrane is not so deeply incised; the interruption in the lateral lines occurs a little farther from the base of the caudal; the last dorsal and anal rays do not project so far past the caudal base, and the scales are a little smaller. Imbedded scales occur in front of the ventrals where the breast is entirely naked in the other species. Perhaps the greatest difference lies in the entire absence of the interradi al canals and pores on the inner surface of the pectoral, which is such a characteristic feature in *B. boulengeri*. The teeth on the outer end of the vomer are in two irregular rows for a short distance in the large specimens, but in the small ones they are in a single row as in the other species. The teeth do not otherwise differ. The cross bars are more definite, and the interspaces and the head are not so much freckled with small spots.

In life this species is light reddish brown, growing lighter below to nearly white on the belly. Dark brown, irregular cross bars are on the body.

A narrow one is across the top of the head just behind the eyes; two wider ones are between it and the spinous dorsal; one is under the spinous dorsal; two under the soft dorsal, and one at the base of the caudal fin.

218. *Thalassophryne branneri* Starks, new species.

Plate 13.

The head is as long as it is wide, and its length without the projecting mandible is contained $24\frac{1}{2}$ times in the entire length to the base of the caudal. The mouth is not so nearly vertical as shown in Günther's picture of the type of *Thalassophryne maculatus*, being on an angle of about 45 degrees. The maxillary reaches back to opposite the posterior margin of the orbit. Short, blunt teeth are in a single row on the vomer, palatines, and sides of the jaws. On the front of the lower jaw they are in two rows, and on the front of the upper jaw a second row is less evident, being represented by a few teeth irregularly placed. The eye-ball is contained 10 times in the length of the head; 2 times in the entire interorbital space, and is equal to the bony part of the interorbital space. The width of the iris is not over half of that of the eye-ball. The top of the gill opening is a trifle below the base of the top pectoral ray and extends to a trifle below the lowest one. The spine on the opercle is about twice as long as the dorsal spines, and is equal to a third of the length of the head.

The base of the first dorsal spine is a very little anterior to the point of the opercular spine, and its distance from the tip of the snout is contained 3 times in the length. The dorsal has 20 rays and the anal 19. The longest rays are toward the posterior end, and the fourth from the last one is almost half as long as the head. The last dorsal and anal rays reach past the caudal base a distance contained 6 times in the head. They are scarcely, or barely, joined to the base of the caudal; not so much so as in *Thalassophryne reticulata* Günther. The caudal fin is rounded and forms a sixth of the entire length. The pectoral reaches to opposite the base of the sixth anal ray, and is contained $1\frac{3}{4}$ times in the head.

The color is dark slaty brown above, growing lighter downward to milk white on the ventral side. There is a faint suggestion of the beginning of blended cross bars on the back; one on the caudal peduncle, two under the soft dorsal, and one under the spinous dorsal. The skin surrounding the dorsal spines is darker than elsewhere on the body. The fins are slate-color, growing darker toward the outer ends of the rays; the ventral and anal are white at the base, and all of the fins but the spinous dorsal are conspicuously margined with white.

This species is closest to *Thalassophryne maculatus* Günther, but differs in having a longer caudal, longer posterior dorsal and anal rays, longer pectorals, in the character of the teeth on the front of the premaxillary, and in the color. From *T. punctata* Steindachner, it differs especially in having a much longer pectoral, in having the dorsal and anal scarcely joined to the caudal, and in color.

A single specimen, 7 inches in entire length, was taken in the lagoon some miles above Natal.

This species is with much pleasure named for Dr. John Casper Branner, Vice-President of Stanford University, and Director of the Stanford Expedition to Brazil.

FAMILY GOBIESOCIDÆ.

219. *Gobiesox barbatulus* Starks, new species.

Plate 14.

The head is as wide as it is long, and is contained $2\frac{3}{4}$ times in the entire length to the caudal base. The depth at the occipit is equal to a half of the width at the same point. The diameter of the eye is contained 5 times in the length of the head and 2 times in the interorbital space. The edges of the nostrils are somewhat raised and the anterior nostril bears a flap widened fan-like toward its distal end. Thick barbels or fleshy papillæ are on the lips and are scattered numerously over the anterior part of the head below. The opercular is flexible and covered with skin. All of the teeth are with entire edges and are very small.

On the front of the upper jaw is a short row of 6 or 7 teeth larger than the others. Close behind them is a longer row extending past the first row and forming part of the lateral marginal teeth. Behind the second row is a still longer third row extending behind the second row and forming the posterior marginal row. In the lower jaw are two rows with their chisel-like edges so closely approximated as to form a single cutting edge. All of these rows are so close together and so small that only one row will be appreciated on each jaw unless the jaws are dried and examined under a compound microscope. No teeth are on the vomer or palatines.

The disk is as wide as it is long and its diameter is a little less than the length of the head. The dorsal has 10 rays and the anal 7. The distance of the front of the dorsal from the base of the caudal is equal to the length of the head. The front of the anal is a trifle behind that of the dorsal. The pectoral is very broad and is equal in length to the postorbital

part of the head. The skin is nearly everywhere covered with fine pits, giving it a granular appearance.

The color is light brown, with darker brown blended spots on top of the head. These run together or become elongate on the body, forming irregular longitudinal streaks. The median fins are dark and have a light border. The pectoral is without color.

This species seems to be related to *Gobiesox papillifer* Gilbert in having fleshy papillæ about the head, but differs in the number of fin rays, in color, and in other characters. Four specimens, about an inch in length, were collected in the tide pools at Natal.

FAMILY BLENNIIDÆ.

220. *Labrisomus nuchipinnis* (Quoy and Gaimard).

This was one of the commonest of the fishes in the tide pools at Natal.

In a couple of specimens from the Canary Islands the band of filaments on the nape is scarcely more than half as long as in the Brazilian specimens, and, as Dr. Gilbert has pointed out (Proc. Wash. Acad. Sci. V. II, p. 179), there is a second row of teeth on the vomer. Thus it appears probable that *Labrisomus canariensis* Valenciennes is a valid species.

221. *Auchenopterus rubicundus* Starks, new species.

Plate 15.

The head is sharp, with the dorsal and anal contours similar. The head is contained $3\frac{1}{2}$ times in the length to the caudal base. The body depth is contained $4\frac{1}{3}$ times. The jaws are equal anteriorly, and the maxillary extends to opposite the posterior edge of the pupil. The teeth are sharp and even, in a single row on the outer edge of the jaws, and a short row of smaller teeth behind them. The eye is a little longer than the snout, and is contained 4 times in the head. There is a multifid tentacle on the anterior nostril, one above the eye, and one at the nape.

The fin formula is, dorsal III-XXVI, 1; anal, II, 15. The origin of the dorsal is opposite the preopercle. The first dorsal spine is a little lower than the second, and all of the anterior spines are considerably lower than the highest spines of the second dorsal. The membrane between the third and fourth spines joins the latter about a third of its length above its base. The ventrals reach a little more than half way between their base and the front of the anal. The pectoral is broadly rounded, and scarcely reaches to the front of the anal.

The scales are crowded anteriorly and grow gradually larger posteriorly. They number 28, counting longitudinally, and 8 transversely, opposite the front of the anal. There are 35 pores in the lateral line including those in the curve. On the ventral region 12 scales lie in a median line between the anal and the ventrals. The head and the fins are entirely naked.

The color of the head and body is uniformly bright red, growing only very slightly lighter below. A broad white streak runs back across the cheek. The dorsal is alternately red and colorless; the red areas are about three spines wide and the others a little shorter. A small black spot is on the base of the twentieth spine, but it is not ringed. The caudal is yellowish and has no bar at its base.

A single specimen was taken in a tide pool at Natal. It is $1\frac{3}{8}$ inches long.

This species differs from all of the others of its genus in having a shorter anal, and in color. It seems to be closest to *Auchenopterus fasciatus* (Steindachner).

222. *Blennius cristatus* Linnaeus.

Numerous specimens were taken in the rock pools at Natal. The largest males have a moss-like growth on the tips of the first two anal rays. The color is variable. Some of them are uniform dark brown, nearly black above, and only slightly lighter below, while no cross bars are evident. The fins are all nearly black. Others are very light grayish or slate-color, with about 6 double cross bars on the back and side, and with the fins light or slightly dusky. These two extremes merge into each other, and all of the intermediate shades of color are represented.

223. *Salariichthys textilis* (Quoy and Gaimard).

This species and *Labrisomus nuchipinnis* were the most abundant of the fishes in the tide pools at Natal.

The head is short and steeply declivous in front of the eyes, descending in a straight line at an angle of about 70 degrees. The top of the head is horizontal, and the part just above and behind the eyes is broadly rounded. The mouth is inferior, very broad, and more transverse than lateral. Its greatest width is equal to the distance of its corner from the edge of the operculum in a horizontal line. The teeth on the jaws are very fine, in a single row, and very freely movable. There is a canine on each side of the mandible a considerable distance inside of the marginal teeth, its length is about a third of the diameter of the eye. A single row of small conical teeth are on the vomer. There is a multifid barbel at the anterior nostril,

one on the upper part of each eye-ball, and a short simple one at the nape about one diameter of the eye in front of the dorsal. The spinous dorsal is equal in length to the soft dorsal, and the spines are considerably lower than the longest rays. The membrane of the anal fin is deeply incised, and the posterior rays of both the anal and soft dorsal reach to, or beyond, the base of the caudal. The pectoral fin reaches to opposite the front of the anal. The caudal is broadly rounded and very slightly angulated at its outer rays.

When the pools containing fishes of this species were poisoned with chloride of lime they immediately left the water and proceeded over the land toward the next pool or the sea, progressing by a series of rapid hops made by curving the body and suddenly straightening it out, thus jumping from the caudal fin. They progressed over the sand at a rather surprising rate of speed.

FAMILY PLEURONECTIDÆ.

224. *Syacium micrurum* Ranzani.

A single specimen taken at Natal.

225. *Oitharichthys spilopterus* Günther.

A few specimens taken in the harbor at Natal and one at Pará. They differ from each other conspicuously in depth of color.

FAMILY SOLEIDÆ.

226. *Achirus lineatus* (Linnaeus).

A few small specimens were taken on the sand beaches about Natal. The pectoral is longer than described in current descriptions (3 times in the head). It is composed of 5 rays, with the middle ray produced, or in one case the second ray from the top is produced, and its length varies from almost half as long as the head to a little more than half as long. In all of them the caudal is abruptly lighter and covered with round dark spots. The eyed side is profusely supplied with hair-like sensory papillæ, some of which are arranged in vertical lines.

227. *Achirus achirus* (Linnaeus).

This species, which has hitherto been known principally from the description of Dr. Günther (*Solea gronovii* Günther, Cat. IV, p. 472), was found in abundance at Lake Papary, where the fishermen secured many specimens by the aid of cast-nets. Specimens were also taken in the market at

Pará. The only other *Achirus* having a rudimentary left pectoral is *A. inscriptus* Gosse, which has about 10 fewer dorsal rays, and has the body covered with a net-work of fine lines. Only a single small specimen from Porto Rico is at hand of the latter species for comparison, but there can be no question of the validity of these two species.

In *A. achirus* the head is contained from $3\frac{1}{2}$ to $3\frac{4}{5}$ times in the length, and the depth from $1\frac{1}{2}$ to $1\frac{3}{5}$ times. Counting from the upper part of the operculum above the lateral line there are from 72 to 76 transverse series of scales. The dorsal rays are not very variable in number, ranging from 61 to 63 in 14 specimens, the majority having 62. There are 3 pectoral rays on the eyed side, and one, with occasionally a second short one, on the blind side. The former is as long as the eye. The longest dorsal and anal rays at the beginning of the posterior third of the fin are contained $1\frac{3}{4}$ times in the head. The caudal shows a slight angle at the tips of the median rays, which form a fourth of the entire length, or a little less. The ventral of the colored side is connected with the anal, but there is a rather deep notch between. The scales are enlarged on the anterior part of the body above the eyes, the anterior parts of the head, body, and fin rays are thickly covered with hair-like tentacles on the blind side, and a few are around the mouth and eyes of the eyed side.

228. *Apionichthys unicolor* (Günther).

A couple of specimens taken at Pará. The color is brownish, mottled with darker elongate spots placed vertically. One of them is freckled with dark brown specks. One has 3 ventral rays on the blind side, rather than 2.

FAMILY ANTENNARIIDÆ.

229. *Pterophryne histrio* (Linnaeus).

A small specimen was taken in the harbor at Natal. In life it was olive green with the belly yellow, and large, round, yellow spots scattered over the sides, as well as some obscure black spots. Over these colors were sparsely scattered flakes of pure white.

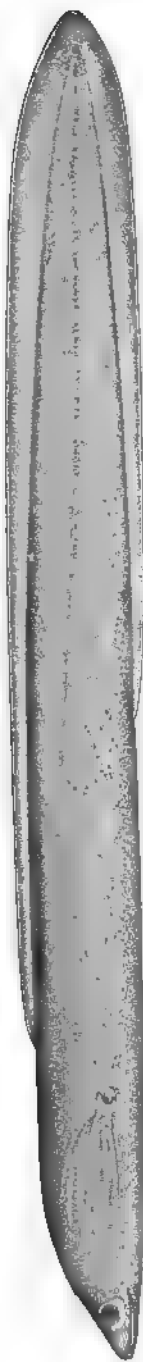
FAMILY OGCOCEPHALIDÆ.

230. *Ogcocephalus vespertilio* (Linnaeus).

A couple of specimens were examined in the Rocha Museum at Ceara.

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PLATE II.

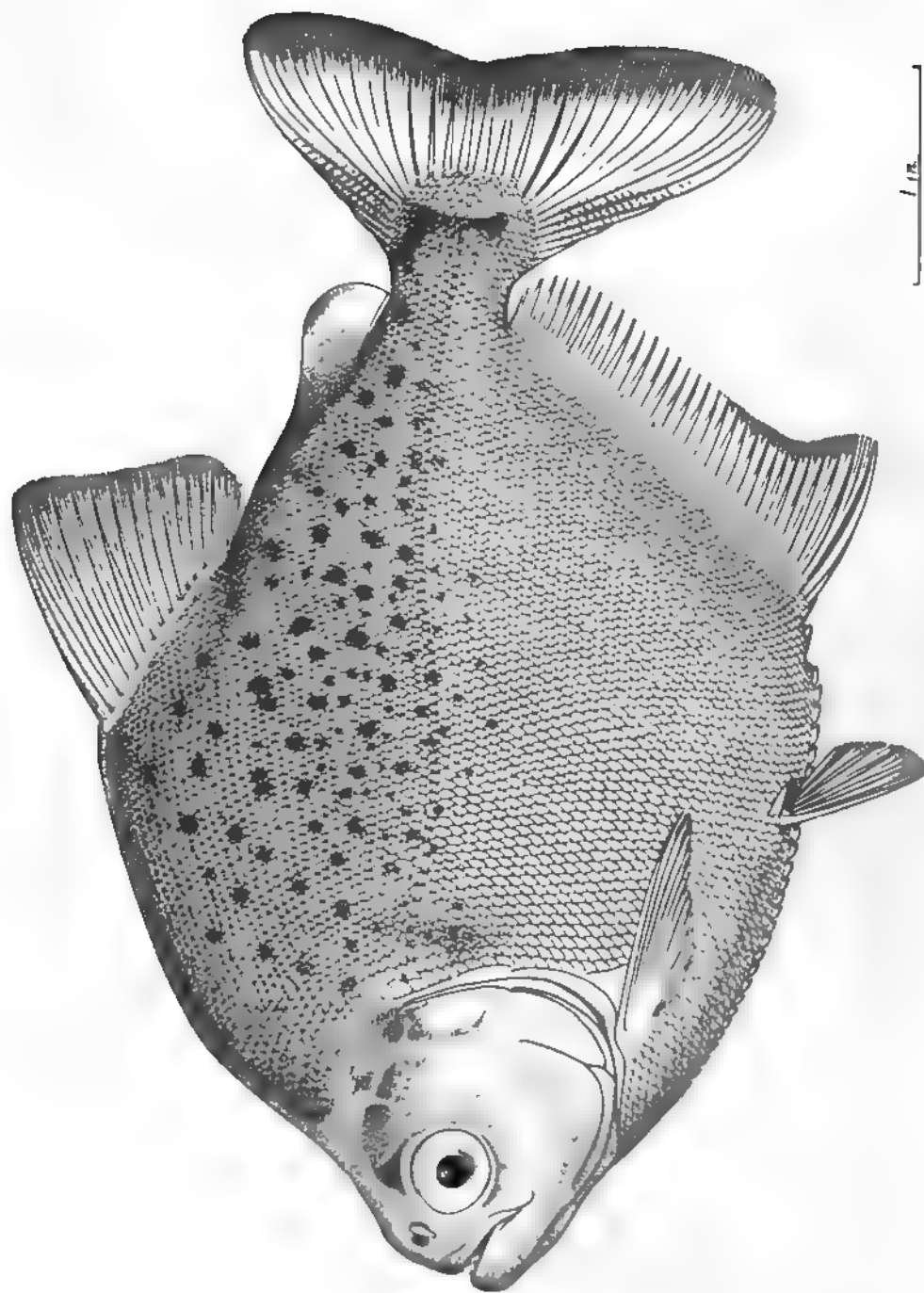


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Babula megalops Starks. Type.

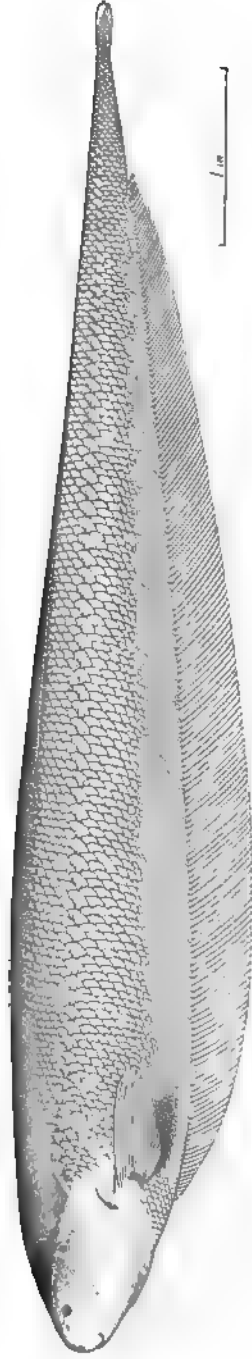
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PLATE IV.

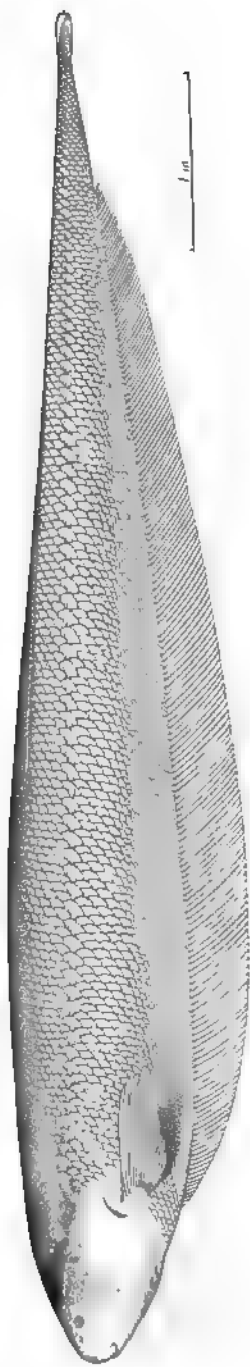


Sternarchella sima Starks. Type.

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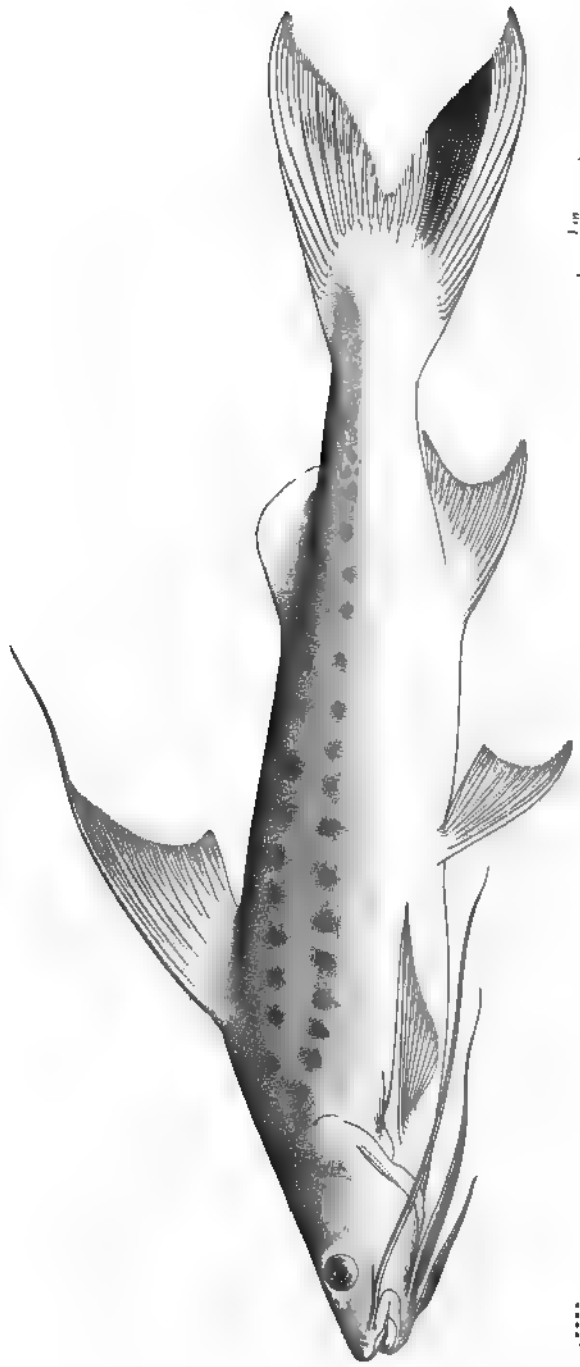
PLATE IV.



Sternarchella sima Starks. Type.

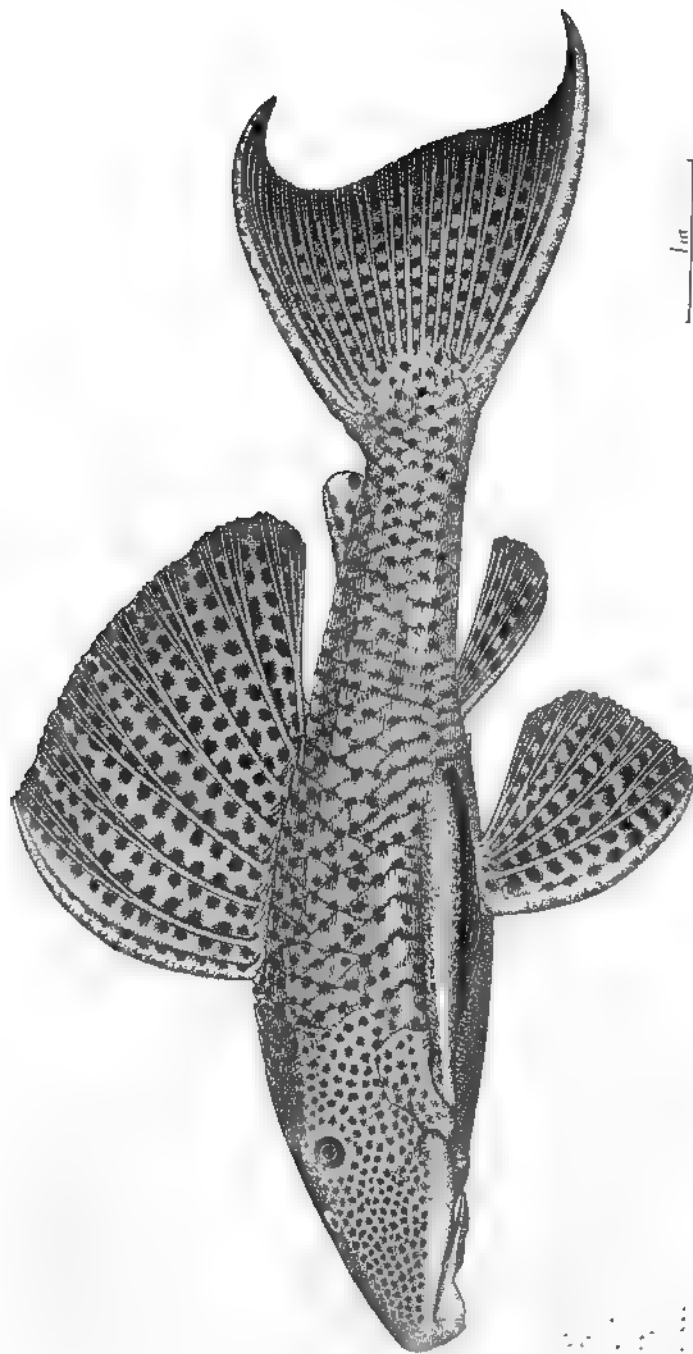
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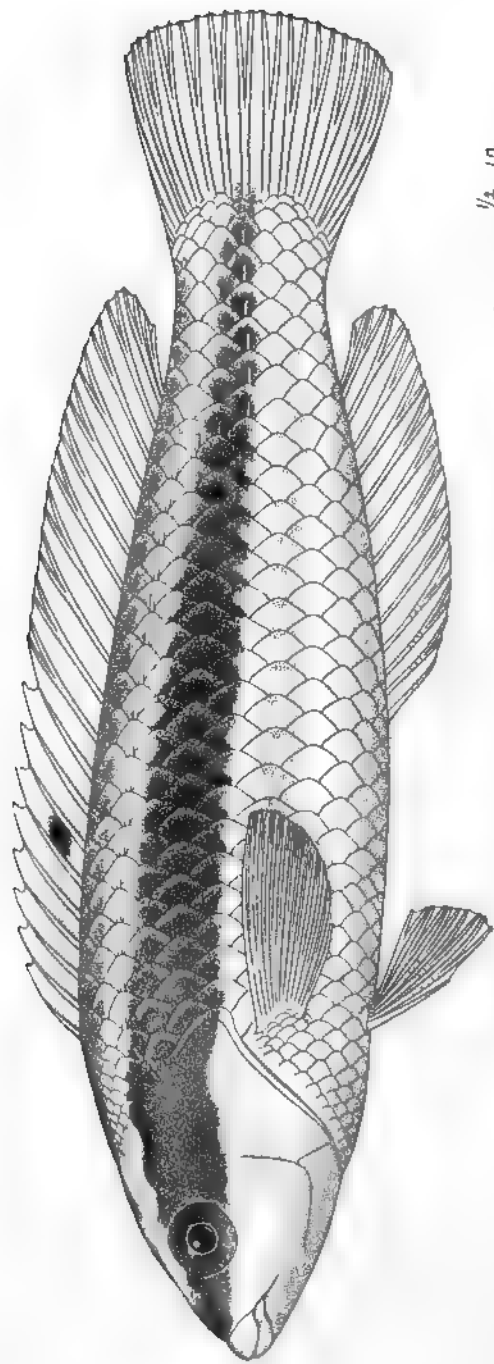
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Platypogon caeruleostriatus Starks. Type.



Plecostomus pusarum Starks. Type.

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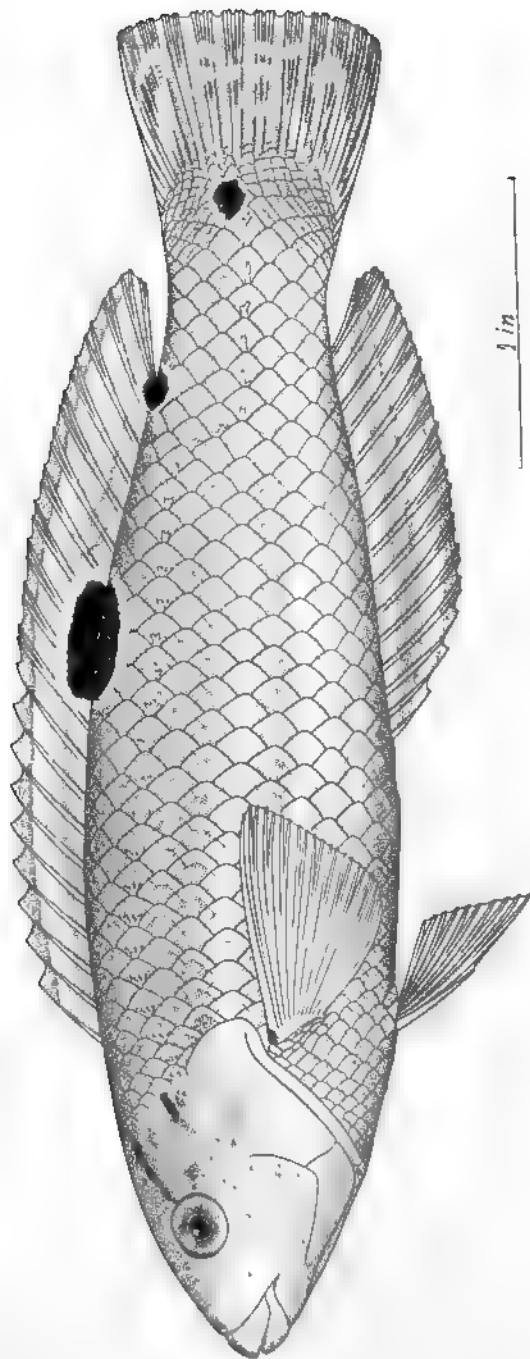


Halichares penrosei Starks. Type.

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PLATE VIII.

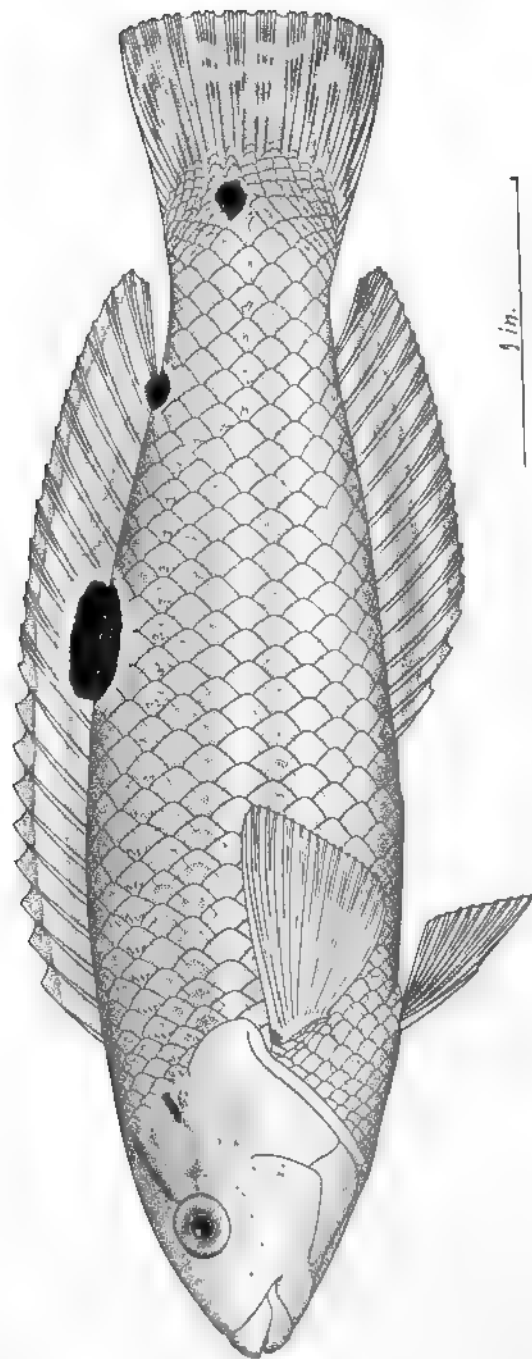


Halichoeres trideus Starks. Type.

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PLATE VIII.

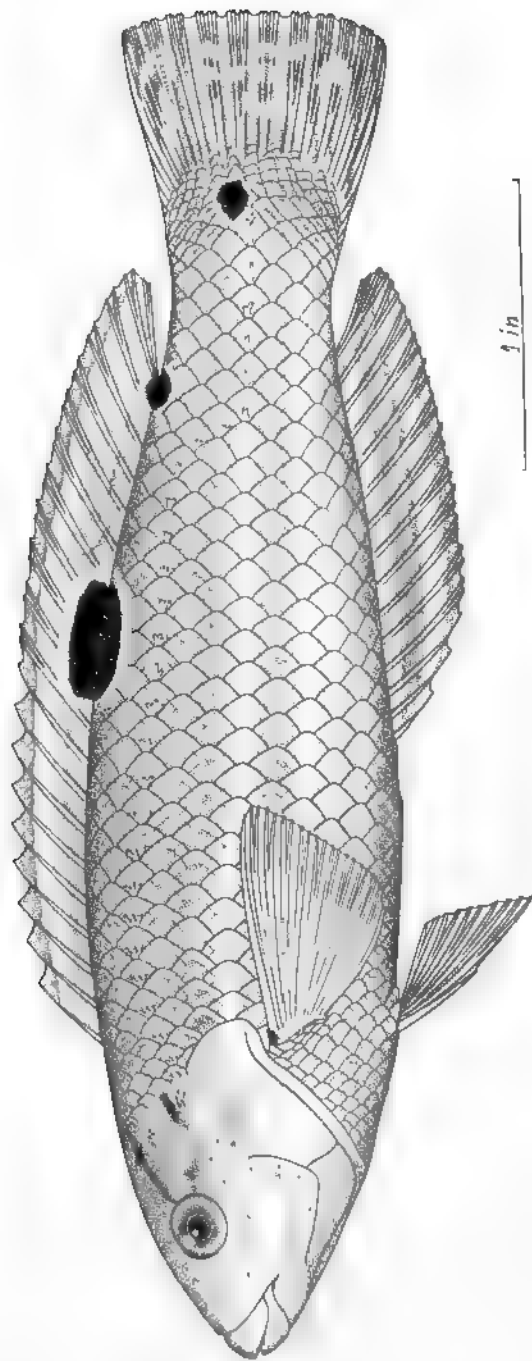


Halichoeres irideus Starks. Type.

L. S. Del.

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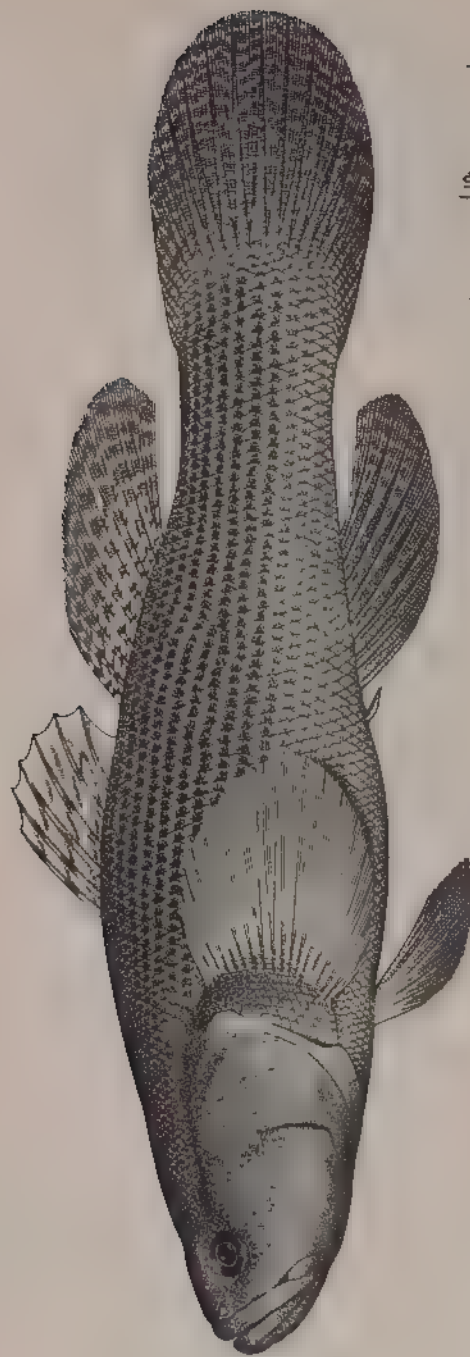
PLATE VIII.



Halichoeres irides Starks. Type.

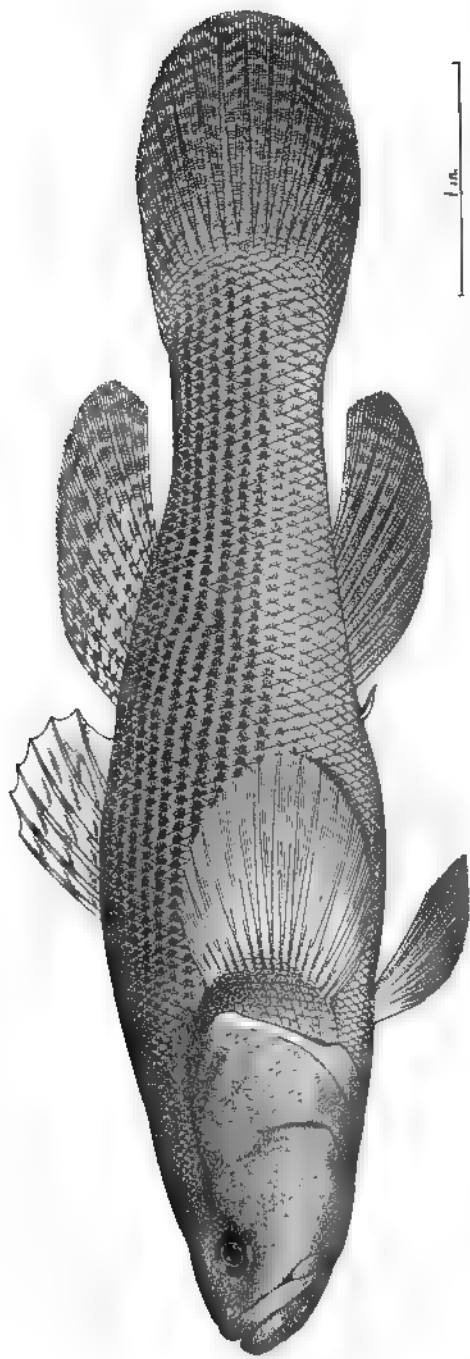
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Eleotris carvalhonis Starks. Type.

PLATE IX.

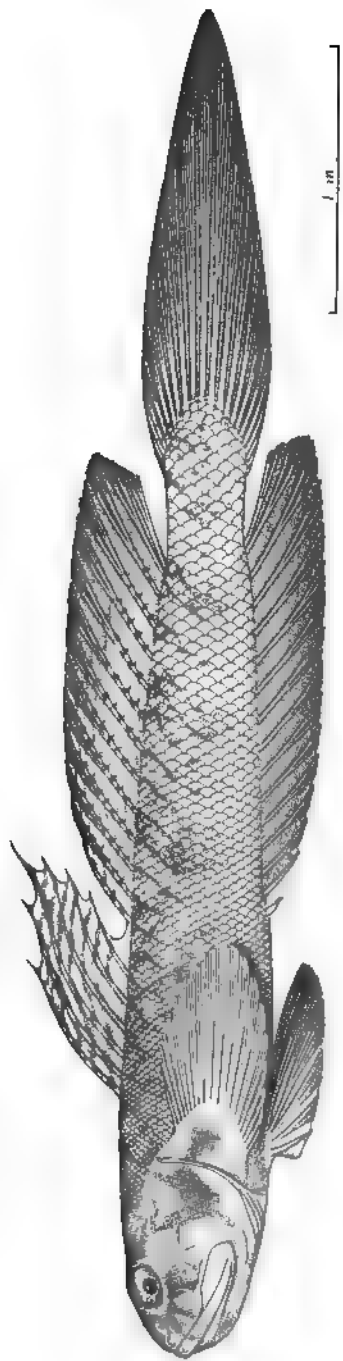


Electris carvalhois Starks. Type.

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PLATE X.

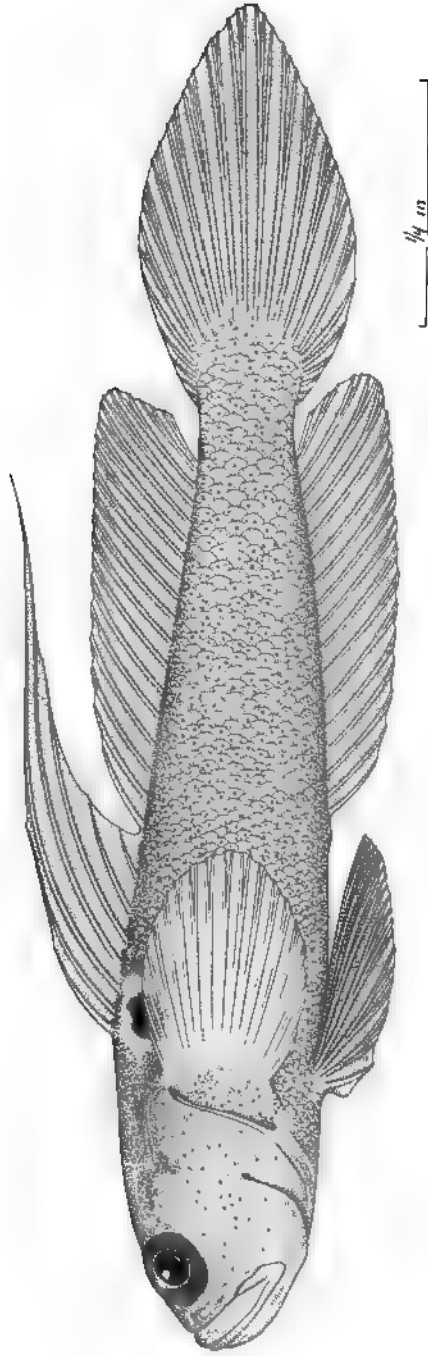


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Gobionellus stomatus Starks. Type.

C. L. S. Del

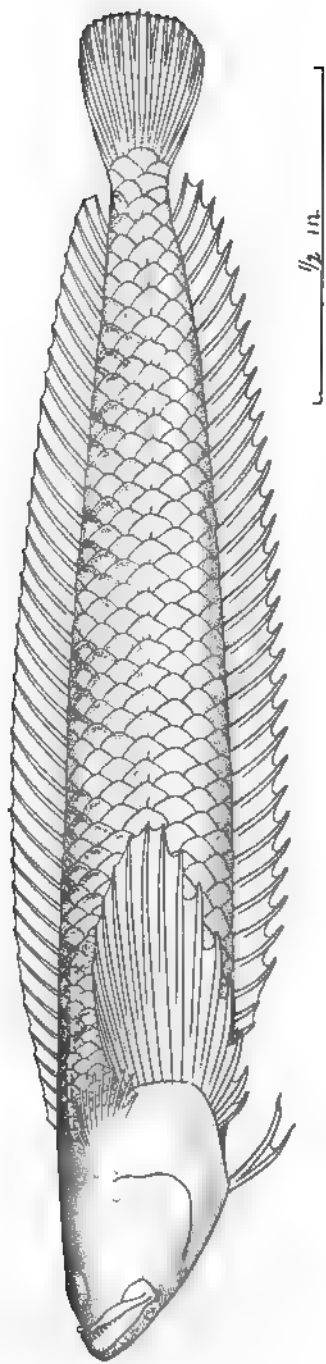
1994



Microgobius omostigma Starks. Type.

C. L. S. Del.

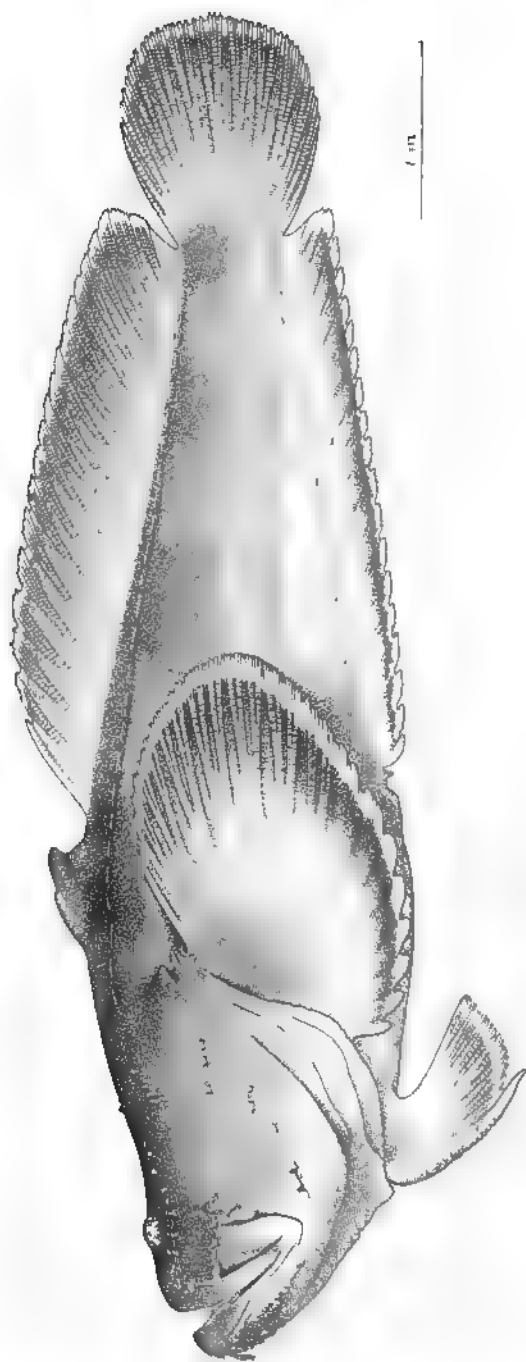
700



***Dactylocoelus crossotus* Starb. Type.**

117011

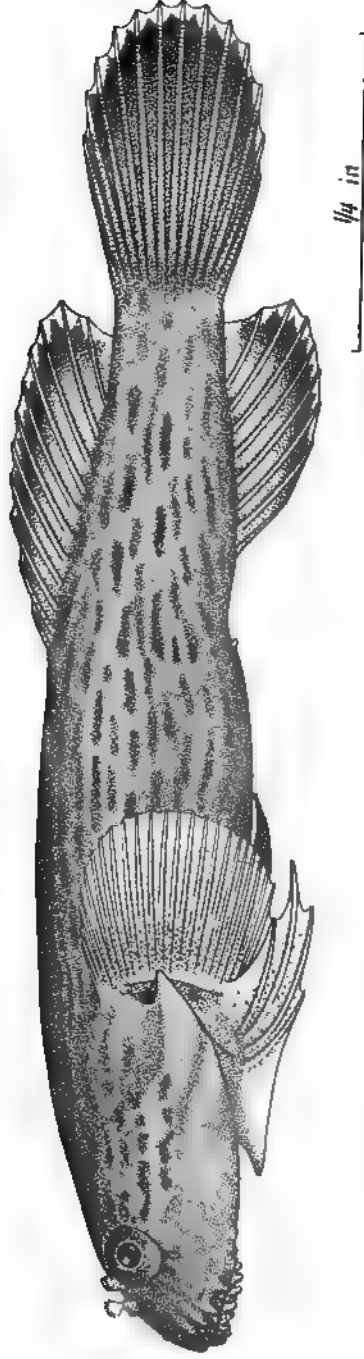
PLATE XIII.



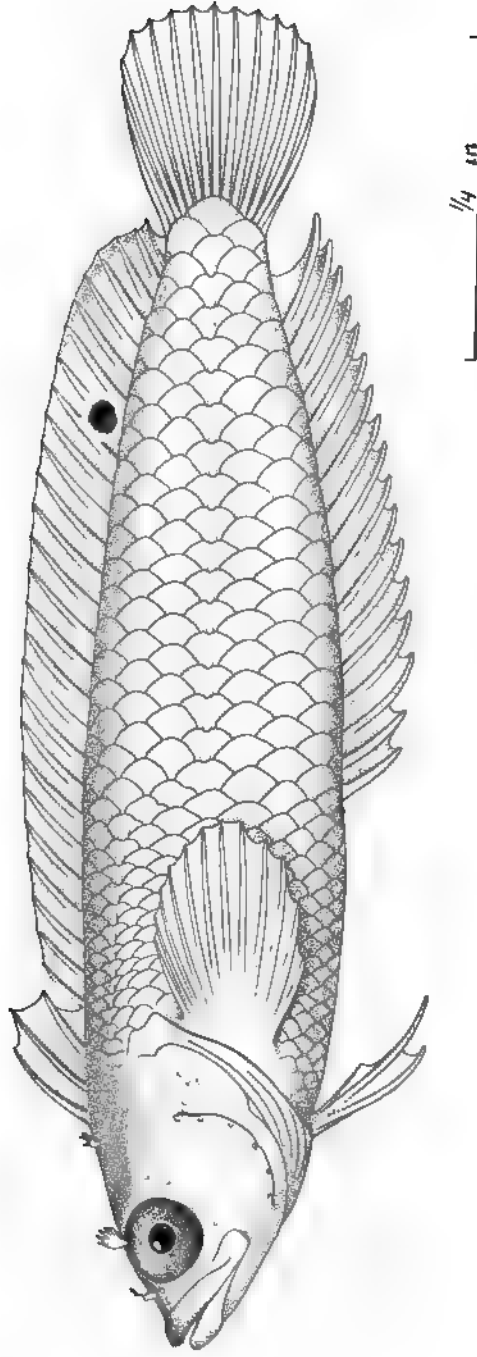
Thalassophryne branneri Starks. Type.

C. L. S. Del

1900



Gobiesox barbatulus Stark. Type.



***Auchenopterus rubicundus* Starks. Type.**

C. L. S. Del.

1914
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BY

ERNEST WHITNEY MARTIN

Associate Professor of Greek

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STANFORD UNIVERSITY
PRESS

TO
HENRY RUSHTON FAIRCLOUGH
PROFESSOR OF LATIN IN LELAND STANFORD JUNIOR UNIVERSITY
TRUE FRIEND AND TEACHER

Yet have I loved thy voice
Frail echo of some ancient sacred joy.
—SANTAYANA.

O Wanderer from a Grecian shore,
Still, after many years, in distant lands.
Still nourishing in thy bewilder'd brain
That wild, unquench'd, deep-sunken, old-world pain
Say, will it never heal?
—MATTHEW ARNOLD.

Quis volucrum species numeret, quis nomina discat?
Mille avium cantus, vocum discrimina mille.
—*Anth. Lat.* 733.

PREFACE

In the following pages I have attempted to present, in their own words, a tolerably full picture of the Roman attitude toward bird life as reflected in their greatest poets. To this end I have recorded, side by side, the important and the commonplace.

My collections of material are, I believe, fairly comprehensive down into the second century of the Empire. The thread is picked up again in the *Latin Anthology*. The appended index of the loc. cit. shows exactly what ground has been covered. These collections were begun in my undergraduate days and saved as marginalia at a time when some slight technical skill in taxidermy and ornithology made college and university possible for me. Omissions, errors, and the gap in the later poets may, of course, be checked from the *Archiv*, when finally completed.

Considerations of space and the check-list arrangement have made it necessary to omit, in the main, citations from the prose writers and references to birds in general. This general restriction of scope has led to other omissions as well, notably the sources and parallels from Greek literature. The poets of both peoples, after all, were but drawing from a common fund of traditional lore, the whence and wherefore of which had become obscured in many places by the lapse of untold years. This is particularly true in matters of astronomic lore, in augury, and in the various myths of metamorphosis. However, as to the Greek background, the curious reader may satisfy himself to weariness by turning to Thompson's indispensable *Glossary of Greek Birds*. As a ready aid to such readers I have given with each Latin bird-name a parallel synonym in Greek.

I have omitted for the most part any full discussion of astronomical and mythological problems. Such new light as may eventually be thrown upon these two clouded phases of the ancient view of bird lore will come, I think, from gleanings here and there in comparative literature, folklore and anthropology. In order that we may more fully appreciate the continuity of literary tradition and folk observation in this field, we must have a series of studies covering mediaeval and modern European literatures. A detailed study of the birds in the English poets is, perhaps, our most immediate need. Such a survey will command a very large field of

readers. As my own contribution to this larger purpose, I may say that in three more years I hope to be able to tell the full story of the birds in our own American poets.

For the most part the Greeks and Romans held the same viewpoint as regards the birds about them. The latter still kept, as their chief exponents of bird song, the nightingale, swallow, halcyon and swan, with all their inherited myths and lore. But, in addition to this, the uninitiated, I believe, will be surprised at the really wide range of observation and sentiment which is encompassed by the Roman poets in this little corner of nature's realm. The consistent Roman attitude toward the song of birds is, to the modern reader, perhaps the most striking thing to be noted. It is simply this: that they nearly always felt a tone of sadness in the songs of their favorite song birds, where we are inclined to feel joy and ecstasy.

This prevalent Roman feeling is due, in my judgment, to the widespread ancient belief in the metamorphosis association. Their favorite birds were not thought of merely as birds *per se*, but rather as human beings who had been changed into the birds in question. The nightingale and swallow were still Philomel and Progne. This is probably the clue to the rather curious choice of the swan and halcyon as typical song birds. This Roman point of view is the key to the interpretation of the rather frequent literal descriptions of actual metamorphoses scattered through the Latin poets. Horace, assuming before our eyes the form of a swan, is an example of this peculiar usage. This attitude of mind is the basis of several epithets and derivations. Thus, as I still believe, *luscini* is best taken as derived from **luges-cinia*. The wide use of *querulus* and related words takes on a new significance when once this basic attitude is taken into consideration.

As we shall see, practically the same species were noted and recorded in the spring and fall migrations; but, in this matter, similar geographical and climatic conditions were contributing elements.

In the matter of identification of species I have of course attempted nothing new. My single year in Italy, occupied largely with the technique of our craft, left scant time for woods, meadows and riverside. Besides, this is the task of years for a finished expert in the birds of Europe. Thrown back, therefore, upon the books, I have tried to catch the prevailing traditional identifications; and in their quest I have spent many pleasant days with Gesner and his kind. However, there still remain a few siftings in the final nomenclature, to be made from the little hints of place, season, color and habit, scattered through the remains

of literature and art. These will break up some of the generic names into the probable species which the poets unconsciously had in hand.

Professor W. Warde Fowler has shown us the method with his observations on the crows, ravens and doves. And more recently, Boraston's article in the *Journal of Hellenic Studies*, Vol. 31, on the *Birds of Homer*, has made clear the possibilities of this manner of approach. It must be done, preferably by a native, on the ground; and it may well be the task of some future Italian Thoreau or Burroughs.

Most American village boys know at least the common local birds. But this living contact has been ignored in the rather colorless treatment of the Roman birds in our annotated editions. Possibly, therefore, the reader will be interested in the literary parallels from our American poets. For this particular phase of our study it would have been sufficient for the purpose in view to have taken only the greater poets of the last century, with such minor writers as are included in the later Anthologies of, let us say, Stedman and Sladen.

But as the work grew I became more and more interested in our older poets; so that, as a matter of fact, I have gone through the dusty pages of some hundreds of our all but forgotten earlier writers, and have included also the host of minor poets saved for us in the early anthologies of Kettell, Griswold, Duyckinck and many others. For the literary ornithologist in the earlier periods of our literature, from William Morrell and Jacob Steendam down to Philip Freneau and a generation beyond, there are many peculiar little antiquarian problems. Our birds were then as yet largely unnamed. Alexander Wilson in 1814 listed only two hundred and eighty-three species of North American birds; with Dr. Coues in 1882 the number has grown to nearly nine hundred. Throughout these earlier periods English influence is very strong, and one must be ever watchful for skylarks, mavisés, rooks, throistles and nightingales. For the last mentioned, Anne Bradstreet, our first poetess, had a special penchant.

Naturally, in bringing together American and Roman birds, I have attempted no close scientific paralleling of species; I have tried rather to group the birds which have aroused similar reactions in the feelings of their poetic observers. Hence Roman nightingales have suggested American mocking-birds and even whippoorwills, while larks have been answered by bobolinks, and starlings by meadowlarks.

This hunt through our own poets was undertaken first, in order to find out just how much of the ornithological tradition of the classics had percolated, as it were, through time and distance to our own shores. It

turns out that there is far more of direct imitation, translation and traditional reminiscence than we should have expected, and a surprising coherence in related observation. In checking over this material I have felt in quite a new way the truism that all literature is one, and that no particular literature can be fully understood alone. And I have felt with new force that Greek and Latin literature can never be divorced from English and American literature. In thus prowling through the literary underbrush of our own past, one comes to have a warm affection for our early bards, and to feel an admiration for the old classical training which everywhere shows its abiding influence. And finally, after counting the birds, one comes to believe with Burroughs, "that the birds are all the birds of the poets and of no one else."

Save that nightingales, larks, and the classic traditions of the halcyon and swan can never be quite forgotten, our poets are in the main content with our own native species. There is, of course, little or nothing from heraldic associations. The younger poets even have favorites to pit against classic *Philomel*; thus Stedman vouches for the cat-bird, Lanier for the mocking-bird, and Van Dyke, after hearing the nightingale on the banks of the Arno, "longed to hear a simpler strain—the wood notes of the veery."

In upper Austria, in 1845, Bayard Taylor, surrounded by the bird prima donnas of Europe, could still dream of our own meadowlark, oriole and mocking-bird. But General Albert Pike, it seems to me, was a bit overly American, in his youth, when he grouped mock-birds (*sic*) and humming-birds with Latona in a "rich and lustrous Delian paradise." Yet having noted this trifle, the classical teacher will pause with pleasure over his *Hymns to the Gods*—Neptune, Apollo, Venus, Diana and the rest—"written," as Griswold tells us, "at an early age, principally while he was surrounded by his pupils in the school-room." They are documents of a lost point of view. It is only fair to this very distinguished southern poet and scholar to add that the above offending passage was fully emended in a later edition of his works.

A complete study of the birds in our American poets is something yet to be done, but, in passing, we may note that they record over one hundred different species. Bryant has twenty-eight species; Emerson, Holmes and Lowell over thirty each; while Longfellow lists over fifty, and Whittier something beyond seventy. Their bird lore is nearly always exact and satisfying, and of very wide range and observation. Whittier still had an interest in the old hibernation fallacy of the swallow. Longfellow knew, for example, the recondite myth of the *swallow-stone* (Plin.

XI, 79; XXXVII, 27), and utilized it with great beauty in his *Evangeline*. Dr. Lebour (vid. *The Zoologist*, 1866, p. 523; Hartung, *Birds of Shakespeare*, p. 283) found this myth still a living tradition in Brittany; hence its reappearance in Acadia, where no doubt Longfellow came upon it.

In conclusion, I must thank a long list of teachers and friends for influences and suggestions leading toward a combination of interests, which have been in subsequent years an unfailing source of pleasure. From the earlier academic years I would mention Professor J. R. Kennan. To him the capture or observation of a rare migrant warbler or sparrow was just as important as the capture of an elusive ablativus or optative. To Professor Charles E. Bates I owe more than I can ever repay. He was truly one of our great college teachers of Latin. He proudly belonged to the older school—to those who knew their Latin grammar by heart and by paragraph number, and who needed no text in presenting Horace. I owe a similar debt of gratitude to Professor Edward W. Claypole, whose Latin marginalia inscribed upon our notebooks in biology and the like, would now, I suppose, seem to be relics of an order of things that is no more. Pliny and 'il maestro di color che sanno,' were to him still doubly real. Natural science with him was invested with an atmosphere never quite forgotten by his scholars. It was my very good fortune to be under him for four years, in the preparation of a very considerable collection of American birds. From later years, to Professors F. F. Abbott, E. M. Pease, A. T. Murray and H. R. Fairclough, I would pay a student's grateful homage for years of kindly guidance and inspiration. Finally, I am greatly indebted to Professor J. E. Church, Jr., my colleague for two years at the University of Nevada, for unfailing kindness and patience in helping to prepare this rather long paper for publication.

E. W. M.

Stanford University, California,
April 1914.



The Birds of the Latin Poets

ACALANTHIS (ACANTHIS). 'Ακαλανθίς (ἀκανθίς). Gold-finch, thistle-finch. *Carduelis elegans*. Vid. Fowler, *A Year with the Birds*, p. 243. Note IV, RUSCINIA.

American literary parallels: Wild canary, summer yellow-bird, thistle-bird.

Celia Thaxter: *Yellow-bird*.

Roswell Park: *To a Goldfinch*.

Send up your full notes like worshipful prayers;
Yellow-bird, sing while the summer's before you.

—CELIA THAXTER.

Let the tiny yellow birds
Still repeat their shining words,
While across our senses steal
Hints of things no words reveal.—CARMAN-HOVEY.

A summer evening scene with attendant background of bird-song:

Tum tenuis dare rursus aquas, et pascere rursus
Solis ad occasum, cum frigidus aera vesper
Temperat, et saltus reficit iam roscida luna,
Litoraque alcyonem resonant, acalanthida dumi.

—VERG., *Geor.* III, 335.

Cf. Serv. in loc.: Alii lusciniam esse volunt, alii vero carduelem, quae spinis et carduis pascitur. Vid. Note IV, RUSCINIA.

The thistle-birds have changed their dun,
For yellow coats, to match the sun.—HENRY VAN DYKE.

The yellow-hammer by the way-side picks
Mutely the thistle's seed.—WILCOX.

The *acanthis*, with the nightingale, is represented (by implication) as endowed with great powers of song:

Nyctilon ut cantu rudis exsuperaverit Alcon?
Astyle, credibile est, si vincat acanthida cornix,
Vocalem superet si dirus aedona bubo.

—CALP. VI, 6.

A-poise upon the mullein's tipmost top,
 And bending down its rod of gold,
 The thistle-finch all liquidly lets drop
 Melodies manifold.—MIFFLIN.

Vid. Robinson, *The Poets' Birds*, London, 1883, passim, for most of the European birds in this study as they appear in the poets of England. The author boldly assumes that the British poets (save Tennyson) know next to nothing at first hand of their own native birds and that in this regard they are vastly inferior to the poets of America. Naturally his treatment of the subject is wholly unsympathetic and unfair, though at times suggestive. The work is, however, so full of errors that it must be used with great caution. Cf. int. al. Swanton (Review), *A Literary Curiosity*. *Atlant.* 54, 398.

ACCIPITER. Κίρκος. Hawk. A general name for diurnal birds of prey. The accurate identification of the various species is impossible. American parallel: Hawk.

The name is applied as a title of reproach to a rapacious man:

Inpure, inhoneste, iniure, inlex, labes popli,
 Pecuniai accipiter avide atque invade.

—PLAUT., *Pers.* 408.

Disagreeable situations are proverbially called 'hawks'-nests':

Em, accipitrina haec nunc erit.

—PLAUT., *Bacch.* 274.

Hawks are not worth snaring:

Quia non rete accipitri tennitur neque milvo,
 Qui male faciunt nobis: illis qui nihil faciunt tennitur
 Quia enim in illis fructus est, in illis opera luditur.

—TER., *Phorm.* 330.

Cf. Cautus enim metuit foveam lupus accipiterque

Suspectos laqueos.

—HOR., *Ep.* I, 16, 50.

If mind were immortal and subject to metempsychosis, the hawk would flee from its traditional prey, the dove:

Tremeretque per auras
 Aeris accipiter fugiens veniente columba.

—LUCR. III, 751.

Cf. Coombs has a stand west of Nut meadow, and he says that he has just shot fourteen hawks there which were after pigeons.—THOREAU, *op. cit.*,¹ p. 116.

Birds at night are oftentimes aroused by dreams of the onslaught of hawks and birds of prey:

At variae fugiunt volucres pinnisque repente
Sollicitant divom nocturno tempore lucos,
Accipitres somno in leni si proelia pugnās
Edere sunt persectantes visaeque volantes.

—LUCR. IV, 1007.

Cf. The bird from out its dream
Breaks with a sudden cry.—HOWELLS.

Then half wing-openings of the sleeping bird,
Some dream of danger to her young hath stirred.—LANIER.

And sleeping birds, touched with a silly glee,
Waken at midnight from their blissful dreams,
And carol brokenly.—LAMPMAN.

The calls and cries of hawks and birds of the sea vary with their habits and environment:

Postremo genus alituum variaequē volucres,
Accipitres atque ossifragae mergique marinis
Fluctibus in salso victum vitamque petentes,
Longe alias alio iaciunt in tempore voces,
Et quom de victu certant praedaeque repugnant.

—LUCR. V, 1078.

For the note of the hawk, vid. *Anth. Lat.* 762, 24.

Accipitres pipant milvus hiansque lupit.

Cf. also *Anth. Lat.* 733, 6; Wackernagel, *op. cit.*, p. 50.

Cf. Hark, the sharp, insistent cry,
Where the hawk patrols the sky.—ROBERTS.

There shrieks the hovering hawk at noon.—BRYANT.

The hawk is portrayed as the foe of smaller birds:

Natura humanis omnia sunt paria: qui pote, plus urget, piscis ut
saepe minutos magnu' comest, ut avis enicat accipiter.
(*Marcopolis.*) —VARR., *Men. Reliq.* 2.

¹For list of works in this study, see Bibliography.

- Cf. Forsitan hanc volucrem (i.e., accipiter) rapto quae vivit et omnes
Terret aves, semper pennas habuisse putetis.
—Ov., *Met.* XI, 291.

The hawk, in a simile describing the capture and slaying of the son of Aunus by Camilla, is portrayed as seizing a dove in mid-air:

Quam facile accipiter saxo sacer ales ab alto
Consequitur pennis sublimem in nube columbam,
Comprensamque tenet, pedibusque eviscerat uncis.
Tum cruor et volsae labuntur ab aethere plumae.
—VERG., *Aen.* XI, 721.

- Cf. Hor., *Od.* I, 37, 17; Ov., *Met.* V, 604.

This dominant instinct to pursue doves as prey, is the survival of the militant spirit of Daedalion, who was metamorphosed into a hawk:

Illius virtus reges gentesque subegit,
Quae nunc Thisbaeas agitat mutata columbas.
—Ov., *Met.* XI, 299.

- Cf. On steel-blue wings, with eyes intent on crime,
A hawk through tangled brush pursues the quail.—RICE.

Wild pigeons, early on the wing,
Woke overhead low thundering—
Blue, rearward columns mounting high,
Scared by the gray hawk's greedy cry.—HOSMER.

For the metamorphosis of Phoebus into a hawk, cf. Ov., *Met.* VI, 122.

- Cf. Thee, bright-eyed hawk!
Soul-emblem, sunwards soaring, as to God.—BAILEY.

This militant spirit was a cause of hatred toward the bird:

Odimus accipitrem, quia vivit semper in armis.
—Ov., *Ars Amat.* II, 147.

Menelaus was mad in leaving Helen accessible to Paris:

Accipitri timidas credis, furiose, columbas.
—Ov., *Ars Amat.* II, 363.

Various bird enmities were lulled by Arion's music:

Et sine lite loquax cum Palladis alite cornix
Sedit, et accipitri iuncta columba fuit.
—Ov., *Fast.* II, 89.

Cf. With cawing crows that follow,
The hunted hawk wings wearily and screams.—CAWEIN.

The dove once smitten by a hawk never outlives its fear:

Terretur minimo pennae stridore columba
Unguibus, accipiter, saucia facta tuis.
—OV., *Trist.* I, 1, 75.

The dove in airy speed may balk
Her swooping enemy the hawk.—HOSMER.

From swooping hawk may tear away
The partridge, and its haunt regain.—HOSMER.

Birds fleeing from hawks enter even the homes of men. In like manner Ovid turns to Messalinus:

Accipitremque timens pennis trepidantibus ales
Audet ad humanos fessa venire sinus
Nec se vicino dubitat committere tecto.
—OV., *Ex Ponto*, II, 2, 37.

Cf.: *Alauda accipitrem adeo timet, ut in hominum sinus confugiat, et loco manens vel in terra sedens capi se permittat.*—ALBERTUS.

I cannot help admiring the great gray hawk. How bold, how bright, how swift he is! Let him but show his shadow and the shrieking hens scatter, flying to cover; and the blood-red cock, that braggart of the barnyard, hides his proud crest in fear.—CAWEIN, *Nature Notes*, p. 17.

Daedalus awaits the coming of Icarus even as the mother bird collects her brood when dispersed by the onslaught of a hawk:

Callidus medium senex
Daedalus librans iter
Nube sub media stetit,
Alitem exspectans suam
(Qualis accipitris minas
Fugit et sparsos metu
Conligit fetus avis).
—SEN., *Oed.* 899.

Idaeus is as helpless in saving his brother from Diomedes, as a mother bird is against a hawk:

Ut volucris, derepta sui cum corpora nati
Accipitrem laniare videt nec tendere contra
Auxilium nec ferre suo valet anxia nato,
Quodque potest, levibus plangit sua pectora pennis.
—SIL. ITAL., *Il. Lat.* 417.

For references to the hawk in auguries vid. *Sil. Ital.* IV, 103; *Stat., Theb.* III, 509; and supra *Verg., Aen.* XI, 721, *sacer ales*.

The metamorphosis of Daedalion into a hawk by Apollo, with some description of the bird in question:

Cum se Daedalion saxo misisset ab alto,
Fecit avem et subitis pendentem sustulit alis,
Oraque adunca dedit, curvos dedit unguibus hamos,
Virtutem antiquam, maiores corpore vires.
Et nunc accipiter, nullis satis aequus, in omnes
Saevit aves, aliisque dolens fit causa dolendi.

—Ov., *Met.* XI, 340.

A hawk, now a mere decoy, grimly mourns that the captured game is not his own:

Praedo fuit volucrum: famulus nunc aucupis idem
Decipit et captas non sibi maeret aves.
(*Accipiter.*) —MART. XIV, 216.

A sparrow while upbraiding a hare which had been seized by an eagle, is pounced upon by a hawk and is in turn rebuked by the dying hare:

Oppressum ab aquila et fletus edentem graves
Leporem obiurgabat passer: 'Ubi pernicitas
Nota,' inquit, 'illa est? Quid ita cessarunt pedes?'
Dum loquitur, ipsum accipiter necopinum rapit
Questuque vano clamitantem interficit.
Lepus semianimus: 'Mortis en solacium!
Qui modo securus nostra inridebas mala,
Simili querela fata deploras tua.'—PHAED. I, 9, 3.

For the Fable of the Hawk as arbiter between two quarrelling Cocks, one of which he seized, cf. *Phaed., Fab. Aes.*, App. II, 6.

A hawk, while befooling a nightingale, is caught by a fowler:

Accipiter ad luscinae nidum dum sedet
Auritum speculans, illic pullos invenit.
Mater periclo mota prolis advolat
Supplexque, pullis ut parcat suis, rogat.
Accipiter: 'Quod vis,' inquit, 'faciam, si bona
Cantaris voce carmina modulatum mihi.'
At illa, quamvis excideret animus, tamen
Metu coacta est et cantavit denique
Dolore plena. Praedam qui captaverat
Accipiter illi: 'Non tu cantasti bene,

Et unum e pullis, apprehendit unquibus
 Coepitque devorare. Ex diverso venit
 Auceps et calamo clam levato perfidum
 Visco contingit atque in terram deiecit.
 Quicumque fraudes alii tendit subdolas
 Timere debet, ne ipse capiatur dolo.

—PHAED., *Fab. Aes.*, App. II, 18.

For the Fable of the Hawk, Stork and Goose, in which the last is seized by the first, after a compact for protection with the stork, vid. Phaed., *Fab. Aes.*, App. II, 23.

ACREDULA. An unknown bird (?).

Acredula has been taken at various times as either a bird¹ (thrush, lark, owl, swallow, nightingale) or as a frog.² Cicero (*De Div.* I, 8, 14), translates the ὀλολυγών of Aratus, *Phaen.* 948, with *acredula*. Many therefore, following Aristot., *H. A.* 4, 9, 11, prefer to take *acredula* as a kind of frog. But ὀλολυγών, in the Greek tradition, is just as indeterminate as *acredula*.³ In both Cicero and the *De Philomela*, the *acredula* is introduced in the midst of a category of birds. The descriptions of the song of the *acredula* (as a bird), with its touches of sadness, and the use of the word *cantus* agree with the ancient attitude toward bird-song in general. Furthermore, in his next chapter Cicero speaks specifically of the *ranunculi*, and a similar reference⁴ appears later in the *De Philomela*. As we shall see, the song of birds at dawn and in the spring is fairly common in the classical poets. For these reasons it seems to me highly probable that *acredula* was understood in these passages as a bird.

¹Cf. Gesner, op. cit., p. 76.

²So apparently Thompson, who does not cite ὀλολυγών in his *Glossary*. *Thes. Ling. Lat.* s. v. Genus ranarum ut videt. Isidorus records the double tradition, but apparently differentiates *acredula* (bird) from *agredula* (frog). *Orig.* 12, 7, 37: Eadem luscina et *acredula* dicitur; *Orig.* 12, 6, 59: *Agredulae* ranae parvulae in sicco vel agro morantes, unde et nuncupatae.

³Cf. Schol. Theoc. VII, 139.

⁴Cf. with the passages below:

Vos quoque signa videtis, aquai dulcis alumnae,
 Cum clamore paratis inanis fundere voces
 Absurdoque sono fontis et stagna cietis.

—Cic., *De Div.* I, 9.

Garrula limosis rana coaxat aquis.

(*De Philomela.*)

—*Anth. Lat.* 762, 64.

In this connection certain references to frogs in the American poets are of interest:

The croaking frogs, whom nipping winter kil'd
Like birds now chirp, and hop about the field.

(*The Four Seasons. Spring.*)

—ANNE BRADSTREET.

The frogs, nocturnal knights of song,
Are *nightly* wide awake;

I have no doubt they sing to sleep

The tadpoles small and great.—ABBOTT.

When Aristophanes in Greek

The tone essayed to hit,

"Pompholygopaphlasmasin"

Was near as he could get.

But this implies the bubbling sound

That voice in water makes:

Thy unimpeded, natural song

Was brekekex, koax.—BIGELOW (?).

(*Eolopoesis.*)

The frog's hoarse bassoon, and the loon's tremulous shriek.

—STREET.

Those guttural harps the green-frogs tune.—CAWEIN.

How dreary to be somebody!

How public, like a frog

To tell your name the livelong day

To an admiring bog!—EMILY DICKINSON.

I am sure the notorious frogs of Hor., *Sat.* I, 5, were part of the choir of spring. Vid. *Cl. Rev.*, 1901, p. 117 and p. 166. Vid. s. v TURDUS.

The vernal and matutinal songs of the *acredula*:

Et matutinis *acredula* vocibus instat,

Vocibus instat et adsiduas iacit ore querellas,

Cum primum gelidos rores aurora remittit.

—CIC., *De Div.* I, 8.

Vere calente novos componit *acredula* cantus

Matutinali tempore rurirulans.

(*De Philomela.*)

—*Anth. Lat.* 762, 15.

The interpretation of Isid., *Orig.* 12, 7, 37: *Luscinia avis inde nomen sumpsit, quod cantu suo significare solet diei surgentem exortum,*

quasi *lucinia*. Eadem et *acredula*, de qua Cicero in *Prognosticis*: et matutinos exercet *acredula* cantus.

For the form *acredula*, cf. Wackernagel, *op. cit.*, p. 75: "So könnte auch das *edula*, worauf ausser *acredula* und *ficedula*, noch *monedula*, *querquedula* und (Isid., *Orig.* XII, 7) *coredulus* ausgehen, mit ἀεῖδεν und ἀηδών zu verbinden sein." The term *acredula* is still in use as the name of a genus of birds akin to the genus *Parus*. Cf. Newton, *op. cit.*, p. 968.

For the onomatopoetic verbs of bird song in Latin, *vid. passim Anth. Lat.* 762; Wackernagel, *op. cit. passim*; Peck, *Onomatopoetic Words in Latin (Class. Studies in Honor of Henry Drisler, p. 226)*.

AEDON. Ἀηδών. Nightingale.

Vid. s. v. LUSCINIA.

AFRA AVIS, (Libyca, Numidica). Μελεαγρίς, τέτραξ. Guinea-fowl. *Numida Meleagris*.

Described by Col., VIII, 8, 2; *Africana est quam plerique Numidicam dicunt, meleagridi similis, nisi quod rutilam galeam et cristam capite gerit, quae utraque sunt in meleagride coerulea.*

This is of interest, as it shows the difference between the Greek (Μελεαγρίς) and the Roman fowls. This agrees with the geographical distribution of the probable progenitors. Cf. Newton, *op. cit.*, p. 399; Thompson, *op. cit.*, s. v. v. supra; Hehn, *op. cit.*, p. 358.

Guinea-fowls as table birds:

Non *Afra*¹ avis descendat in ventrem meum.

—HOR., *Epod.* 2, 53.

Cf. also Stat., *Silv.* I, 6, 78; II, 4, 28; *vid. s. v. PHASIANUS*.

Si Libycae nobis volucres et Phasides essent,
Acciperes, at nunc accipe chortis aves.

—MART. XIII, 45.

Ansere Romano quamvis satur Hannibal esset,
Ipse suas numquam barbarus edit aves.

—MART. XIII, 73.

¹The guinea-fowl was brought to Italy after Hannibal's time. Cf. Hehn, *op. cit.*, p. 309.

Nec frustum capreae subducere nec latus Afrae
Novit avis noster, tirunculus ac rudis omni
Tempore et exiguae furtis imbutus ofellae.

—Juv. XI, 142.

A Roman farm-yard scene:

Vagatur omnis turba sordidae chortis
Argutus anser, gemmeique pavones.
Nomenque debet quae rubentibus pennis,
Et picta perdix, Numidicaeque guttatae,
Et impiorum phasiana Colchorum.

—MART. III, 58, 12.

About my farm tame fowls should rove,
Geese and turkeys, ducks and dove;
Nor should I want the guinea-hen,
Which imitates the chatt'ring wren.—BELKNAP (Duyckinck).

He heard the chorus of the farm-yards, the jubilee of the birds.

—TROWBRIDGE.

The metamorphosis of the sisters of Meleager:

Post cinerem, cineres haustos ad pectora pressant,
Affusaeque iacent tumulo; signataque saxo
Nomina complexae; lacrimas in nomina fundunt.
Quas, Parthaoniae tandem Letoia clade
Exsatiata domus, praeter Gorgenque, nurumque
Nobilis Alcmenae, natis in corpore pennis
Adlevat, et longas per brachia porrigit alas;
Corneaque ora facit, versasque per aera mittit.

—Ov., *Met.* VIII, 538.

Cf. Ael. IV, 42; Plin. X, 38, 1; also Hyg., *Fab.* 174: At sorores eius praeter Gorgen et Deianiram flendo deorum voluntate in aves transfiguratae quae Meleagrides vocantur: at coniunx eius Alcyone moriens in luctu decessit.

ALCEDO (ALCYON). Ἀλκυών. Halcyon, kingfisher.

Alcedo ispida.

American parallel: Belted kingfisher.

Hosmer: *The Kingfisher.*

Luders (Stedman): *The Haunts of Halcyon.*

Maurice Thompson: *The Kingfisher.*

The halcyon is one of the four great song-birds of the Greeks and Romans. From early times it has been traditionally identified with the

kingfisher, but the myths and associations, far more even than in the case of the swan, swallow and nightingale, resist rationalization. They seem hopelessly lost in the mystic symbolism of forgotten astronomic lore. In the Latin poets the whole treatment of the bird seems influenced by the metamorphosis idea, which as usual ascribes a tone of sadness, as if the bird were but continuing a former human sorrow. The American references to our own belted kingfisher are purely naturalistic and, as such, represent the one chief difference between the modern and ancient attitudes toward bird-life in general.

Alcedonia, the brooding period of the halcyons, is proverbially used to indicate a period of peace and quiet:

Tranquillum est, Alcedonia sunt circum forum.

—PLAUT., *Cas.* 26.

Iam hercle tu periisti, nisi illam mihi tam tranquillam facis
Quam mare olimst quam ibi alcedo pullos educit suos.

—PLAUT., *Poen.* 355.

And singing thoughts, like Halcyon birds,
Drift lightly o'er the waveless calm,
Near and more near the summer shore,
The isles of balm.—MACE.

Then, rocking near some cavern's emerald gleam,
Thou seem'st the soul of halcyonian days—
The restful Spirit of the sea supreme.—MIFFLIN.

Whose undulations rose and fell
Like ocean's soft and vernal swell,
When poets feign'd upon its breast
The wave-nursed Halcyon's floating nest.—WEBBER (Kettell).

And this the litany we pray:
That God who made may keep us free;
That storms may vex no more the sea,
Where, brooding 'neath a cloudless day,
Still sits Alcyone.—GORDON.

Art thou the bird of old
That built its nest upon the cradling deep,
Owning a charm when wind and wave rebelled,
To hush them into sleep?—HOSMER.

Not there, not there Peace builds her halcyon nest:
Wild revel scares her from wealth's towering dome,
And misery frights her from the poor man's home.
Nor dwells she in the cloister, where the sage
Ponders the mystery of some time-stained page.

—EMBURY (Griswold).

Halcyon prophecies come to pass,
In haunts of bream and bass.—MAURICE THOMPSON

His is the halcyon table
That never seats but one,
And whatsoever is consumed
The same amounts remain.—EMILY DICKINSON.
(*Hope.*)

A simile seemingly illustrative of the habits and flight of the halcyon :

Alcyonis¹ ritu litus pervolgans feror.
—PACUV. (*Ribb. Trag. Rom. Frag.*, p. 149.)

Thine undulating flight
Mimics the billow in its rise and fall.—HOSMER.

On noiseless wing along that fair blue sea,
The halcyon flits.—LONGFELLOW.

As, when the kingfisher flits o'er his bay.—LOWELL.

The halcyon flutters in winter's track.—COATES (*Stedman*).

Let me lie here, far off from Zante's shore,
Where Susquehanna spreads her liquid miles;
To watch the circles from the dripping oar;
To see her halcyon dip, her eagle soar.—MIFFLIN.

Certain habits of the halcyon are signs whereby to judge the weather :

Non tepidum ad solem pinnas in litore pandunt
Dilectae Thetidi² alcyones.—VERG., *Geor.* I, 398.

Vergil's simple observation of the halcyon's habits and his freedom from the traditions of metamorphosis, etc., mark a characteristic which makes him the greatest Roman nature-poet.

Cf. also Prop. III, 7, 61: A miser alcyonum scopulis affligar acutis.

¹Cf. the explanation of Varro, *L. L.* VII, 88: Haec enim avis graece dicitur ἀλκυών, nostri nunc alcedo: haec hieme quod pullos dicitur tranquillo mari facere, eos dies Alcyonios appellant. Quod est in versu 'alcyonis ritu,' id est eius instituto.

²Cf. Neri., op. cit.: Era sacro a Teti perchè dicevasi covasse sulle acque e fra le canne, e perchè Alcione, figlia di Eolo, essendo inconsolabile per la morte del suo sposo Ceice, figlio di Lucifero, perito in un naufragio, essendosi gettata in mare, fu dagli Dei, per ricompensa, trasformata col suo sposo in un uccello, che da lei si nomò. Gli antichi riguardarono questo uccello come simbolo di pace.

Propertius calls upon the halcyons to lull the fury of a gale:

Et merito, quoniam potui fugisse puellam!
Nunc ego desertas¹ alloquor alcyonas.
—PROP. I, 17, 1.

On the morning of Cynthia's birthday the poet prays that no suggestion of sorrow may cross his way, not even the plaintive songs of halcyon and nightingale:

Aspiciam nullos hodierna luce dolentes,
Et Niobae lacrimas supprimat ipse lapis,
Alcyonum² positis requiescant ora querelis,
Increpet absumptum nec sua mater Itym.
—PROP. III, 10, 7.

Ceyx is lost at sea. His wife Alcyone, finding his dead body, is filled with inordinate grief, so that both are metamorphosed into birds:

Insilit (Alcyone) huc; mirumque fuit potuisse; volabat,
Percutiensque levem modo natis aëra pennis
Stringebat summas ales miserabilis undas.
Dumque volat, maesto similem plenumque querelae
Ora dedere sonum tenui crepitantia rostro.
Ut vero tetigit mutum et sine sanguine corpus,
Dilectos artus amplexa recentibus alis,
Frigida nequiquam duro dedit oscula rostro.
Senserit hoc Ceyx, an vultum motibus undae
Tollere sit visus, populus dubitabat. At ille
Senserat, et tandem, superis miserantibus, ambo
Alite mutantur. Fatis obnoxius isdem
Tunc quoque mansit amor, nec coniugiale solutum
Foedus in alitibus. Coeunt fiuntque parentes;
Perque dies placidos hiberno tempore septem

¹The adjective *desertas* is a true description of the halcyons (cf. Ov., *Her.* 17, 81: *Alcyones solae*), and is also a transferred epithet with a touch of the pathetic fallacy, suggestive of the love-lorn poet's own heart:

Cf. And when he heaved a sigh profound
The sympathetic swallow swept the ground.—EMERSON.

The summer-bird his sorrow heard.—EMERSON.

Passing the song of the hermit-bird and the tallying
song of my soul.—WHITMAN.

²To take *alcyonum* here and elsewhere in Propertius with Butler as 'merely seabirds' is to ignore the metamorphosis of the bird, which is the underlying cause of the tone of sorrow.

Incubat Alcyone pendentibus aequore nidis.
 Tunc iacet unda maris: ventos custodit et arcet
 Aeolus egressu praestatque nepotibus aequor.
 Hos aliquis senior iunctim freta lata volantes
 Spectat et ad finem servatos laudat amores.

—Ov., *Met.* XI, 731.

A song that is sad as the lone sea-bird's
 When it seeks its mate with plaintive words.—STRONG.

For another tradition of the metamorphosis of Alcyone, cf. Ov., *Met.* VII, 401; Serv., in Verg., *Geor.* I, 399.

For Alcyone, the Pleiad, who shared the couch of Neptune, cf. Ov. *F.* IV, 172; Id., *Her.* XIX, 133.

Halcyon heavenly blue;
 Lone contour, nighest to the star of day
 Ranging, of winged life.—BAILEY.

For a passing reference to the sons of Alcyoneus, who threw themselves into the sea and were metamorphosed into halcyons, cf. Claud., *Rapt. Pros.* 185.

With the above compare these unique American accounts of metamorphosis:

And he heard the kingfisher
 Who from his God escaped with crumpled crest
 And the white medal hanging on his breast.

—BAYARD TAYLOR.

"Go! Thou shalt fish for minnows all thy life!"
 Wrathful, the King the magic sentence heard;
 He strove to answer, but he only *chirr-r-ed*;
 His royal robe was changed to wings of blue,
 His crown a ruby crest,—away he flew!
 So every summer day along the stream
 The vain king-fisher darts, an azure gleam,
 And scolds the angler with a mocking scream.

—HENRY VAN DYKE.

It is deadly sorrow which causes the plaintive songs of Progne and Alcyone. Ovid seeks the same method of relief:

Est aliquid, fatale malum per verba levare:
 Hoc querulam Prognem Alcyonemque facit.
 —Ov., *Trist.* V, 1, 59.

The plaintive notes of the lonely halcyons seem sweet to the ears of Leander as he crosses the strait:

Alcyones solae, memores Ceycis amati,
Nescio quid visae sunt mihi dulce queri.
—Ov., *Her.* XVIII, 81.

The laments of Livia over her dead son are like complaints of the halcyons to the unheeding waters:

Alcyonum tales ventosa per aequora questus
Ad surdas tenui voce sonantur aquas.
—Cons. ad Liv. 107.

The halcyons come to Andromeda and with sympathetic songs of sorrow and with shadowing wings, seek to comfort and protect her:

Te circum Alcyones pennis planxere volantes
Fleveruntque tuos miserando carmine casus
Et tibi contextas umbram fecere per alas.
—MANIL., *Astron.* V, 558.

Octavia bids her laments to exceed those of halcyon, nightingale and swallow, for her grief is greater than theirs:

Age, tot tantis onerata malis,
Repete assuetos iam tibi questus
Atque aequoreas vince Alcyonas,
Vince et volucres Pandionias
Gravior namque his fortuna tua est.
—SEN., *Oct.* 5.

In a chorus to Cassandra advising lamentation as a relief to sorrow, the halcyon—with some description of its nest and young—is placed among the four great song-birds of antiquity. As usual, sorrow and grief are thought of as the essential qualities in their songs:

Non quae verno mobile carmen
Ramo cantat tristis aedon
Ityn in varios modulata sonos,
Non quae tectis Bistonis ales
Residens summis impia diri
Furta mariti garrula narrat,
Lugere tuam potuit digne
Conquesta domum. Licet ipse velit
Clarus niveos inter olores
Histrum cynus Tanainque colens
Extrema loqui, licet alcyones

Ceyca suum fluctu leviter
 Plangente sonent, cum tranquillo
 Male confisae credunt iterum
 Pelago audaces fetusque suos
 Nido pavidæ si titubante foveant.

—SEN., *Ag.* 670.

The idea of sorrow associated with the halcyon and other metamorphic birds, is maintained even in speaking of the nest and in depicting scenes of general bird-life:

Addita de querulo volucrum medicamina nido
 Ore fugant maculas, Alcyonea vocant.

—OV., *De Med. Fac.* 77.

Vid. Hor., *Epod.* 11, 26: *Queruntur* in silvis aves, and cf. the wide use of the adjective *querulus* as a bird epithet. The scholiast to Horace tells us that *queror*, etc. was originally applied to the voices of all animals, but he cites only Verg., *Geor.* 1, 378 (*ranae*) and *Geor.* 3, 328 (*cicadae*). Vid. Porphy. ad loc.

Contrast the above with these American descriptions of the kingfisher's note and habits:

When pacing through the oaks he heard
 The rattle of the kingfisher.—EMERSON.

His are resplendent eyes;
 His mien is kingliwise;
 And down the May wind rides he like a king,
 With more than royal purple on his wing.

—MAURICE THOMPSON.

Over the river, loud-chattering, aloft in the air, the king-fisher,
 Hung, ere he dropped, like a bolt in the water beneath him.

—HOWELLS-PIATT.

Thy voice is like in sound
 The twirling of a watchman's rattle loud.—HOSMER.

He laughs by the summer stream
 Where the lilies nod and dream,
 As through the sheen of water cool and clear
 He sees the chub and sunfish cutting sheer.

—MAURICE THOMPSON.

The kingfisher watches, where o'er him his foe,
 The fierce hawk, sails circling, each moment more low.

—STREET.

The kingfisher flies with a crack-cr-r-r-ack and a limping or flitting flight.—THOREAU, *op. cit.*, p. 192.

The halcyon follows her nest and young when set adrift by the waves and bemoans their loss:

Fluctus ab undisoni ceu forte crepidine saxi
Cum rapit halcyones miserae fetumque laremque,
It super aegra parens queriturque tumentibus undis
Certa sequi, quocumque ferant, audetque pavetque,
Icta fatiscit aquis donec domus haustaque fluctu est;
Illa dolens vocem dedit et se sustulit alis.

—VAL. FLACC. IV, 44.

Another similar situation of bird mother-love is portrayed:

Fluctivagam sic saepe domum madidosque penates
Alcyone deserta gemit, cum pignora saevus
Auster et algentes rapuit Thetis invida nidos.
Mergitur orba iterum, penitusque occulta sub undis
Limite non uno, liquidum qua subter eunti
Lucet inter, miseri nequidquam funera nati
Vestigat, plangitque tamen.—STAT., *Theb.* IX, 360.

Vid. also Stat., *Silv.* III, 5, 57.

For a very curious conception (apparently allegorical) of the halcyon, with nest and young, vid. *Anth. Lat.* 383.

The more truly traditional conception of the halcyon, with nest and young unharrassed by storms, is portrayed in the following lines:

Cum sonat alcyones cantu, nidosque natantes
Immota gestat, sopitis fluctibus, unda.

—SIL. ITAL. XIV, 275.

In a metrical inscription, three of the traditional song-birds, including the halcyon, are portrayed as joining in laments with a father for his dead wife and son:

Cum te, nate, fleo, planctus dabit Attica aedo
Et comes ad lachrimas veniet pro coniuge Siren
Semper et Alcyone flebit te voce suprema
Et tristis mecum resonabet carmen et Echo
Oebaliusque dabit mecum tibi murmura cycnus.

—C. I. L. VI, 25063.

The words *voce suprema* seem to suggest a confused reminiscence of the swan's death song.

Throned on a limb, lit by the sun's soft beam,
A lone kingfisher sat, as if in a dream.—WALLACE.

I know not, but the Past,
When I behold thee, bird, her face unveils,
And back on busy recollection, fast
Crowd old, romantic tales.—HOSMER.

ANAS. Νῆττα. Duck.

Hosmer; *The Wood-duck*.

Like several other bird names, the diminutive is used as a term of endearment:

Dic igitur med aneticulam, columbam vel catellum
Hirundinem, monerulam, passerulum putillum.
—PLAUT., *Asin.* 693.

My little love!
My duck! my dove!—FESSENDEN.

Jackdaws, ducks and quails are the pets of patrician children. A pun:

Nam ubi illo adveni, quasi patriciis pueris aut monerulae
Aut anites aut coturnices dantur, quicum lusitent,
Itidem haec mihi advenienti upupa qui me delectem datast.
—PLAUT., *Capt.* 1002.

Exposure is nothing to a duck. Proverbial:

Utinam fortuna nunc anetina uterer,
Ut quom exiissem ex aqua, arerem tamen.
—PLAUT., *Rud.* 533.

Some description of the wild duck and its pursuit by night:

Neque qua vagipennis anates remipedas buxeirostris pecudes palu-
dibus nocte nigra ad lumina lampadis sequeris.
(*Sexagesis*.) —VARRO, *Men. Reliq.* 5.

The wild duck alert on the stream.—STEAD.

Where 'mid the river's rustling reeds
The water fowl to plumpness feeds.—ARLO BATES.

In their early flight,
Towards the creek or muddy sedge, the ducks
Oft coast along the wood.—M'KINNON.

For the wild duck, *fluvialis anas*, pursued by the hawk, vid. supra, s. v. ACCIPITER; also Ov., *Met.* XI, 771.

The duck as a basis of comparison:

Et anatis habeas orthopygium macrae.
—MART. III, 93, 12.

How ducks were served on the table:

Tota quidem ponatur anas; sed pectore tantum
Et cervice sapit: cetera redde coco.
—MART. XIII, 52.

Aside, twin ducks a savoury sage exhale.—M'KINNON.

What first I want is daily bread,
And canvass-backs and wine.—JOHN QUINCY ADAMS.

His grace, the Canvas-back, My Lord
Anas and *Anser*—both served up by dozens
At Boston's Rocher, half-way to Nahant.—HOLMES.

Ducks bursting with pistachio nuts.—BAYARD TAYLOR.

A gift of ducks sent to a friend by Ausonius. Some description of their characteristics and markings:

Tum, quas vicinae suggessit praeda lacunae,
Anates maritas iunximus,
Remipedes, lato populantes caerula rostro
Et crure rubras Punico.
Iricolor vario pinxit quas pluma colore,
Collum columbis aemulas.
Defrudata meae non sunt haec fercula mensae.
Vescente te, fruimur magis.
Vale bene, ut valeam.
—AUS., *Ep.* III, 11.

A duck, beside an isle of wood,
Within a watery streak was steering,
Dipping his green head in the flood,
When, quick his bill of yellow rearing,
With a loud whiz he flew away.—STREET.

And from yon nook of clustered water-plants,
The wood-duck, shaking its rich purple neck,
Skims forth, displaying through the liquid glass
Its yellow feet, as if upborne in air.—STREET.

Or crested wood-duck, rich in all the dies
That tinge the fleecy robes of vernal skies.—ALSOP.

The far-famed canvass-backs at once we know,
 Their broad flat bodies wrapt in pencilled snow;
 The burnished chestnut o'er their necks that shone,
 Spread deepening round each breast a sable zone.
 (*The Foresters.*) —ALEXANDER WILSON.

Ducks, when leaving the sea, foretell the coming of storms:

Latipedemque anatem cernes excedere ponto
 Saepius et summa nebulas se tendere rupe
 Inde etiam ventos mox adfore praeemonet usus.
 —AVIEN., 1685.

A bit of observation as to the duck's note:

Pausitat arborea clamans de fronde palumbes
 In fluviisque natans forte tetrinnit anas.
 —*Anth. Lat.* 762, 21.

Cf. Suet., *Reliq.* 161: "Anatum (vox est) tetrissitare."

Cf. also Wackernagel, *op. cit.*, p. 49.

Among the reeds the ducklings cry.—BURNS.

And gabbling in sequestered cove,
 The black duck oiled her breast, and dove.—HOSMER.

The silver scream
 Of wild duck startled from their marshy bed.—VALENTINE.

The wild duck from his reedy bed
 Summons his fellow.—CARMAN-HOVEY.

It rang out over the marshes,
 And the army of ducks was still.—BALLARD.

The ducks and geese are riotous, an' strainin' hard to sing.
 What's the reason?

Oh, the reason's cause it's gittin' spring.—BEN KING.

ANSER. Χήν. Goose.

Cf. especially Thompson, *op. cit.*, s. v.; Keller, *op. cit.*, p. 283.

American parallels: Wild goose, brant.

Roberts: *The Flight of the Geese.*

Thaxter: *Wild Geese.*

Sigourney: *To a Goose.*

Field: *Gosling Stew.*

In a simile, reference is made to the driving away of geese from fields of grain :

Sed est huic unus servos violentissimus,
Qui ubi quamque nostrarum videt prope hasce aedis adgredi
Item ut de frumento anseres, clamore apsterret, abigit.

—PLAUT., *Truc.* 250.

Cf. Avien., *Arat.* 1758: Gramina si carpit semensa anser.

Here, leave the geese, Carlo, to nibble their grass.—STREET.

Cf. also *Priap.* 61, 10.

Improbis anser
Strymoniaeque grues et amaris intiba fibris
Officiunt aut umbra nocet.—VERG., *Geor.* I, 119.

A proverbial reference to the softness of goose marrow :

Cinaede Thalle, mollior cuniculi capillo
Vel anseris medullula vel imula oricilla.
—CAT. XXV, 1.

Cf. *Priap.* 64: Quidam mollior anseris medulla.

Their sense of smell is very keen. Thus they saved the Roman citadel.

Et humanum longe presentit odorem
Romulidarum arcis servator candidus anser.
—LUCR. IV, 683.

Cf. Isid., *Orig.* XII, 7: Nullum animal ita odorem hominis sentit ut anser.

Other references to the same incident, which often recurs in the Roman writers :

In summo custos Tarpeiae Manlius arcis
Stabat pro templo et Capitolia celsa tenebat,
Romuleoque recens horrebat regia culmo.
Atque hic auratis volitans argenteus anser
Porticibus Gallos in limine adesse canebat.
—VERG., *Aen.* VIII, 652.

Anseris et tutum voce fuisse Iovem.
—PROP. IV, 4, 12.

Haec servavit avis Tarpeia templa Tonantis.
—MART. XIII, 74.

Nec servaturis vigili Capitolia voce
Cederet anseribus nec amanti flumina cycno.
—OV., *Met.* II, 137.

Sed reppulit unus
Tum quoque totam aciem, Senones dum garrulus anser
Nuntiat et vigilat vestrum sine milite fatum.

—SEDUL. V, 83.

Do those worthies know
That when old Rome had let the ruffian Gauls
Tread on her threshold of vitality,
And all her sentinels were comatose,
Thy clarion-call did save her? Mighty strange
To call *thee* fool!—SIGOURNEY.

By cackling, as their sires saved Rome.—HALLECK.

Geese are as guards more wise than dogs. A description of the abode of sleep:

Non vigil ales ibi cristati cantibus oris
Evocat Auroram, nec voce silentia rumpunt
Sollicitive canes canibusque sagacior¹ anser.

—OV., *Met.* XI, 597.

The feathers of the goose and various other birds were used in making decoys:

Dat tibi pennarum terrentia millia vultur,
Dantque grues, cynique senes et candidus anser.

—NEMES., *Cyn.* 312.

In one of the most appreciative passages of bird life in the Latin poets, Ovid gives the reasons for the destruction of birds, viz., that they reveal the purposes of the gods. The Capitoline geese are forgotten:

Intactae fueratis aves, solacia ruris,
Adsuetum silvis, innocuumque genus;
Quae facitis nidos, quae plumis ora foveitis,
Et facili dulces editis ore modos.
Sed nihil ista iuvant, quia linguae crimen habetis,
Dique putant mentes vos aperire suas.
Nec tamen id falsum: nam, dis ut proxima quaeque,
Nunc penna veras, nunc datis ore notas.
Tuta diu volucrum proles, tunc denique caesa est,
Iuveruntque deos indicis exta sui.
Ergo saepe suo coniunx abducta marito
Uritur Idaliis alba columba focis.
Nec defensa iuvant Capitolia, quo minus anser
Det iecur in lances, Inachi lauta, tuas,
Nocte deae Nocti cristatus caeditur ales,
Quod tepidum vigili provocet ore diem.

—OV., *Fast.* I, 441.

¹The modern proverbial 'stupid as a goose' was unknown in antiquity.—KELLER.

For punning references to *Anser* the poet vid. s. v. CYCNUS, and cf. Verg., *Ecl.* IX, 35; Ov., *Trist.* II, 435; Prop. II, 34, 83.

Cf. for something of the same tone:

Come, let me lead thee o'er this "*second Rome!*"
Where tribunes rule, where dusky Davi bow,
And what was *Goose-Creek* once is Tiber now.
(*Poems relating to America. From* —THOMAS MOORE.
the City of Washington.)

The cackling or hissing note of geese:

Caccabat hinc perdix et graccitat improbus anser.
—*Anth. Lat.* 762, 19.

Dum miluus iugilat, trinnit tunc improbus anser.
—*Anth. Lat.* 733, 11.

Cf. *Argutus anser*, Mart. III, 68, 13; and *argutus olor*, Verg., *Ecl.* IX, 36; "With regular anserine clangor," Thoreau, op. cit., p. 51; Wackernagel, op. cit., p. 50.

Around the ducks their gabbling frolicks play'd,
While o'er the stream the aged gander sway'd,
The saucy monarch of the mimic main,
With num'rous plummy subjects in his train:
And oft he scar'd the ling'ring truant boys
Along the banks, with fearful hissing noise.—CHATTERTON.

The fowls loud cackling swarm about the yard;
The snowy geese harangue their numerous brood.
(*The Foresters.*) —ALEXANDER WILSON.

Philemon and Baucis attempt to kill their only goose for the entertainment of their guests Jupiter and Mercury. The goose flies to the gods for protection and is saved:

Unicus anser erat, minimae custodia villae,
Quem dis hospitibus domini mactare parabant.
Ille celer penna tardos aetate fatigat
Eluditque diu; tandemque est visus ad ipsos
Confugisse deos. Superi vetuere necari.
—Ov., *Met.* VIII, 684.

Pâtes de foie gras:

Deinde secuti
Mazonomo pueri magno discerpta ferentes
Membra gruis, sparsi sale multo non sine farre,
Pinguibus et ficis pastum iecur anseris albae.
—HOR., *Sat.* II, 8, 91.

Aspice, quam tumeat magno iecur anserē maius!
 Miratus dices, 'Hoc, rogo, crevit ubi?'
 —MART. XIII, 58.

Cf. Juv. V, 114; Pers. IV, 71; Stat., *Silv.* IV, 6, 9; Pet., *Sat.* 65; Mart. XIII, 73, et al.

But he could cook a goose as brown
 As any man that set foot on
 The mist-kissed shores of Oregon.—MILLER.

A goose was vowed to Mars by Velius. When the god demanded its fulfillment, the goose gladly hastened to the altar. A silver statue of the goose, with tokens, commemorates the deed:

Ipse suas anser properavit laetus ad aras
 Et cecidit sanctis hostia parva focus.
 Octo vides patulo pendere numismata rostro
 Alitis? Haec extis condita nuper erant
 Quae litat argento pro te, non sanguine, caesa.
 Victima iam ferro non opus esse docet.
 —MART. IX, 31, 5.

The goose was sacred also to Isis and Osiris.

Cf. Juv. 6, 540; *Anth. Lat.* 395, 43.

Jupiter as the consort of Leda, is referred to once as the 'Amyclaeus anser':

Ciris Amyclaeo formosior anserē Ledaē.¹
 —VERG., *Ciris* 489.

You tell me, with a little scorn,
 That all my swans are veriest geese.—COOLIDGE.
 (*Optimism.*)

A resumé of the usefulness of the Roman goose:

Aedibus in nostris volitans argenteus anser,
 Dulcisono strepitu colla canora levat.
 Ales grata bono duplici; nam fercula mensae
 Conplet et adservat nocte silente domum.
 Solus Tarpeia canibus in rupe quietis
 Eripuit Gallis Romula tecta vigil.
 (*De Anserē.*) —*Anth. Lat.* 106.

¹This may be the original form of the myth. The swan was substituted in a later and more aesthetic age. Cf. Keller, op. cit., p. 228 and 455. Buckland, *Mythological Birds Ethnologically Considered. Anthropol. Jour.* 4, 277. See this important article also for illuminating discussion of the mythology of the dove, eagle, hawk, owl, peacock and phoenix.

Meantime, the worthy and hard-working goose
 Hath rear'd up goslings, fed us with her flesh,
 Lull'd us to sleep upon her softest down,
 And with her quills maintain'd the lover's love,
 And saved the tinsel of the poet's brain.—SIGOURNEY.

For the Fable of the Stork, Goose and Hawk vid. s. v. ACCIPITER.

For the Fable of the Goose that laid the golden egg vid. Avianus,

Fab. 33.

I move the owl
 Be straightway swept from the usurper's seat,
 And thou forthwith be voted for, to fill
 Minerva's arms.—SIGOURNEY.

AQUILA. 'Αετός. Eagle.

For the best discussion of identifications and astronomic lore vid. Thompson, op. cit., s. v. 'Αετός; Harting, op. cit., chap. I; Boraston, *The Birds of Homer. Jour. of Hell. Studies*, vol. 31.

For the eagle in mythology and ancient art vid. Keller, op. cit., s. v.

In the American poets the eagle is mentioned more often than any other bird.

Neal (Kettell): *The Eagle*.

Percival: *To the Eagle*.

Street: *The Gray Forest Eagle*.

Melville (Stedman): *The Eagle of the Blue*.

Simms: *The Slain Eagle*.

Epithets. Characteristics:

Fulva aquila, Verg., *Aen.* XI, 751; *Nuntia fulva Iovis*, Cic., *Carm. frag.* 18; *Ales fulva Iovis*, Sil. Ital. XII, 56; *Fulvus Iovis ales*, Verg., *Aen.* XII, 247; Av., *Arat.* 1007, et passim; *Iovis pinnata satelles*, Cic., *Mar.* Bücheler, P. M., p. 305; *Aquila minore pinna*, Mart. X, 19, 10; keen-sighted, Hor., *Sat.* I, 3, 27; *Densis pinnis*, Enn., *Ann.* 149; *Praedator*, Ov., *Met.* VI, 516; *Improbis*, Verg., *Aen.* XII, 250; *Aquilis coruscis*, *Ciris* 529; *Ferox aquila*, Hor., *Carm.* IV, 4, 31; *Tremebundis pennis*, Cic., *Arat.* 329, et al.

As the bird of Jupiter:

Satelles Iovis, Cic., *ex Aes.* Bücheler, P. M., p. 309; *Famulae Iovis*, Juv. XIV, 81; *Iovis ales*, Ov., *Met.* VI, 516; Verg., *Aen.* I, 394, et passim; *Armiger Iovis*, Ov., *Met.* XV, 386; Sil. Ital. X, 108, et passim; *Iovis praepes*, Ov., *Met.* IV, 714; Verg., *Aen.* V, 254; *Flammiger ales*,

Stat., *Theb.* VIII, 675; *Fulminis ales*, Hor., *Carm.* IV, 4, 1; *Volucrum regina*, Mart. V, 55; *Avis regis*, Mart. X, 19; *Regia ales*, Ov., *Met.* IV, 362; *divum gratissima regi*, Ov., *Met.* XII, 561, et passim.

The nimble messenger of Jove
On earth alights not from above
With step so light as theirs.—HOPKINSON.
(*The British Light Infantry.* 1778.)

And Jove's swift eagles soared above the vales.—PROCTOR.

O pine tree! Jove sends down his word to you
By his own eagle from the heights of heaven.—VALENTINE.

An Eagle, soaring in his pride of place,
Was seen, the head of Japheth hovering o'er;
A thunderbolt the pluming stranger bore.
—ALLEN (Duyckinck).

And looked the fable of the Greek—
The bird with thunder in his beak.
(*The Bird of Washington.*)—WARFIELD-LEE (Griswold).

Thou with the gods upon Olympus dwelt,
The emblem and the favorite bird of Jove—
And godlike power in thy broad wings hast felt
Since first they spread o'er land and sea to rove.
(*To the Eagle.*) —KINNEY (Griswold).

Speak! speak! Through this dark cloud
The eyes of Zeus's eagle cannot pierce.—MOODY.

Sounds. Clangor:

Sil. Ital. XVII, 55; *Anth. Lat.* 762, 27.

And above him wheeled and clamored
The Keneu, the great war-eagle.—LONGFELLOW.

Nesting habits and young:

Non aliter, quam cum pedibus praedator obuncis
Deposuit nido leporem Iovis ales in alto.
—Ov., *Met.* VI, 516.

Aquila in sublimi quercu nidum fecerat.
—PHAED. II, 4, 1.

Cf. also Verg., *Aen.* IX, 563; Sil. Ital. IV, 55; XII, 55, et al.

The eagle from Bellona's eyrie.—STEDMAN.

Like eagle's nest built in the air.—MILLER.

The youthful Drusus, in a splendid simile, is likened to the eagle's young that are driven from the nest to seek their prey:

Hor., *Carm.* IV, 4. Cf. Schmid, *De aquila, quae apud Horatium Carm.*, IV, 4.

But like the fledgling eaglet leave the nest.—SILL.

A reference to the eagle-stone, *lapis aëtites*. Cf. Plin. X, 3, 4:

Quaeque sonant feta tepefacta sub alite saxa.

—LUC. VI, 673.

Dicuntur quidam lapides inveniri in Armenia, qui praegnantur vocantur, eo, quod habent lapillos intra se, et prosunt partui, quos et aquilae sub se ponunt cum ovis, ne incendantur ipsius (aquilae) calore.—*Schol. 1p. Oud.*, Weber, C. P. L., p. 719.

The callow young are tried by the sun test:

Utque Iovis volucer, calido cum protulit ovo

Implumes natos, solis convertit ad ortus:

Qui potuere pati radios, et lumine recto

Sustinuere diem caeli, servantur in usus:

Qui Phoebæ cessere, iacent.—LUC. IX, 900.

Armiger haud aliter magni Iovis, anxia nido

Cum dignos nutrit gestanda ad fulmina fetus,

Observam spectans ora ad Phaethontia prolem,

Explorat dubios Phoebea lampade natos.

—SIL. ITAL. X, 108.

The eagle and the sun in the American poets:

Thro' the far clouds, the eagle cleft his way,

And soar'd, and wanton'd in the flames of day.

(*Creation.*)

—TIMOTHY DWIGHT.

The eagle eye that mocks the God of day.—PAULDING.

(*The Backwoodsmen.*)

Go climb the fields of air, the heights explore,

Beyond where even eagles dare to soar.—ALLEN (Kettell).

The eagle was always the friend of the sun.—HOLMES.

The bird, whose pinion courts the sunbeam's fire.

—SPRAGUE (Griswold).

(Apollo) thou in whose bright
And hottest rays the eagle fills his eye
With quenchless fire, and far, far up on high
Screams out his joy to thee.—GEN. ALBERT PIKE.

Your eagle climbing to the sun
Keeps not the straightest course in sight.—MILLER.

To soar like eagles in the blaze of noon,
Above the gaping crowd of friends and foes.—HALLECK.

Still, like the eaglet on its new-fledged wing,
Her spirit-glance bespoke the daughter of a king.
—SIGOURNEY.

A sun-bent eagle stricken
From his high soaring down.—WILLIS.

What! soar'd the old eagle to die at the sun!
Lies he stiff with spread wings at the goal he had won!
—WILLIS.

Hither the eagles fly, and lay their eggs;
Then bring their young ones forth out of those crags,
And force them to behold Sol's majesty,
In mid-noon glory, with a steady eye.—ROGER WOLCOTT.
(*Connecticut River.*)

How the eagle sharpens his beak:

Here the old eagle his long beak belays
Upon a rock, till he renews his days.—ROGER WOLCOTT.
(*Connecticut River.*)

Whilst now and then the eagle gray
Pointed his beak and soared away.—STREET.

Flight. The grandeur in the spectacle of a soaring eagle was felt
by the Roman poets:

Utque volans alte raptum cum fulva draconem
Fert aquila, implicuit pedes, atque unguibus haesit;
Saucius at serpens sinuosa volumina versat,
Arrectisque horret squamis, et sibilat ore,
Arduus insurgens; illa haud minus urget obunco
Luctantem rostro, simul aethera verberat alis.
—VERG., *Aen.* XI, 751.

Qualis ubi aut leporem aut candenti corpore cycnum
Sustulit alta petens pedibus Iovis armiger uncis.
—VERG., *Aen.* IX, 560.

The death of Periclymenus, and his metamorphosis into a soaring eagle:

Tendit in hunc nimium certos Tirynthius arcus,
Atque inter nubes sublimia membra ferentem,
Pendentemque ferit, lateri qua iungitur ala.
—Ov., *Met.* XII, 564.

Cf. Fronto, 146, 17n: Aquilarum maiestate volare.
Apul., *Flor.* 8: Paene eodem loco pendula circumtuetur.
Cf. Beneath a tilted hawk is balancing.—SILL.

The lofty Eagle, and the Stork fly low,
The Peacock and the Ostrich, share in woe.
—ANNE BRADSTREET.

To wastes
O'er which the eagle hovered.—BRYANT.
Skies where desert eagle wheels and screams.—BRYANT.
Gloriously the morning breaks,
And the eagle's on his cloud.—LONGFELLOW.
The hawk sailing where men have not yet sailed.
—WHITMAN.

The eagle and his prey. The swan:

Namque volans rubra fulvus Iovis ales in aethra
Litoreas agitabat aves turbamque sonantem
Agminis aligeri: subito cum lapsus ad undas
Cycnum excellentem pedibus rapit improbus uncis.
—VERG., *Aen.* XII, 247.

Cf. Verg., *Aen.* I, 394; IX, 563; Stat., *Theb.* III, 524; VIII, 674; IX, 858, et al.

The dove. The proverbial prey also of the hawk. Cf. Sil. Ital. IV, 114.

Sic aquilam penna fugiunt trepidante columbae.
—Ov., *Met.* I, 506.

Ut fugiunt aquilam, timidissima turba, columbae.
—Ov., *Ars. Amat.* I, 117.

Sed carmina tantum
Nostra valent, Lycida, tela inter Martia, quantum
Chaonias dicunt aquila veniente columbas.
—VERG., *Ecl.* IX, 11.

Birds in general:

Et Iovis in multas devolat ales aves.

—Ov., *Ars Amat.*, III, 420.

Master of all fowls and feathers.—LONGFELLOW.

Pursues him like audacious eagle

In quest of plover, snipe or sea-gull.—FESSENDEN.

Not for this

Did great Columbus tame his eagle soul

To jostle with daws that perch in courts.—LOWELL.

The hare:

Aut dumis subit, albenti si sensit in aethra

Librantem nisus aquilam, lepus ore citato.

—SIL. ITAL. V, 283.

Cf. Verg., *Aen.* IX, 560; Ov., *Met.* VI, 517; Phaed., *Fab.* I, 9; Juv. XIV, 81.

With darting haste, behold her ample size,
Full to th' enjoy'd, though distant victim hies,
Couch'd horrid now she nimbly hovers o'er
Her untorn prey, in raptures at its gore.
Back to her nest she shapes her upward flight,
Her young suck up the blood, with dire delight.

—DEVENS (Kettell).

The lamb. Excitement of shepherds and dogs:

Vid. *The Eagle and the Lamb*. (Painting by Audubon.) *Journal*, vol. I, p. 242 and p. 299.

Talia constanti laevum Iovis armiger aethra
Advenit, et validis fixam erigit unguibus agnam.
At procul e stabulis trepidi clamore sequuntur
Pastores fremitusque canum; citus occupat auras
Raptor, et Aegaei super effugit alta profundum.
Accipit augurium Aesonides, laetusque superbi
Tecta petit Peliae.

—VAL. FLACC. I, 156.

Hooh! hooh! how the eagle screams,

As the blood of the fawn from his talons streams!—STREET.

Serpents. The most striking picture perhaps is the battle between an eagle and serpent in midair:

Verg., *Aen.* XI, 751. Vid. supra. Almost equally vivid are the following descriptions:

Denique nitentem contra, elabique volentem
Implicat, ut serpens, quam regia sustinet ales,
Sublimemque rapit: pendens caput illa pedesque
Alligat, et cauda spatiantes implicat ales.

—Ov., *Met.* IV, 361.

Utque Iovis praepes, vacuo cum vidit in arvo
Praebentem Phoebo liventia terga draconem,
Occupat aversum, neu saeva retorqueat ora,
Squamigeris avidos figit cervicibus unguis.

—Ov., *Met.* IV, 714.

Haud secus, occubuit saxi quos vertice fetus
Ales fulva Iovis, tacito si ad culmina nisu
Evasit serpens, terretque propinquus hiatu:
Illa, hostem rostro atque assuetis fulmina ferre
Unguibus incessens, nidi circumvolat orbem.

—SIL. ITAL. XII, 55.

For other prey:

Cf. Phaed. I, 28: *Vulpi catuli*; Id. II, 6: *Testudinem*; Id. II, 4, 15. *Porcelli*; Juv. XIV, 81: *Capream*; Hor., *Carm.* IV, 4, 9: *In ovilia*.

For Prometheus and an eagle instead of a vulture. Cf. Cic., *Ex Aes.* (*Tusc. Dis.* II, X). This confusion is common in Greek. Vid. Thompson, op. cit., p. 3.

On the eagle in augury int. al. cf. the following:

Cic., *De Div.* I, 47, 106; Verg., *Aen.* I, 393; Id. XII, 244; Val. Flacc. I, 156; Sil. Ital. IV, 104.

For the eagle with Ganymede portrayed in the arts as described by the poets, cf. int. al. Plaut., *Men.* 143; Verg., *Aen.* V, 250; Mart. V, 50; Id. X, 19; Val. Flacc. II, 408; Stat., *Theb.* I, 548; Sil. Ital. XV, 421.

As Ganymede by the eagle was snatched up.—LOWELL.

Recall that sound as of a lute,
When from the empyrean deep,
We saw the eagle downward sweep,
And, as we gazed in wonder mute,
Bear up a lad from 'mid his sheep,
Who dropped a shepherd's flute.—MIFFLIN.
(*The Slopes of Helicon.*)

For an attempt to rationalize the Ganymede myth vid. Keller, op. cit. p. 439.

Cf. Margaret Fuller, *Ganymede to his Eagle*. (Suggested by a work of Thorwaldsen's.)

Fables:

The Eagle, Crow, and Tortoise: Phaed. II, 6. The Eagle, Cat, and Sow: Id. II, 4. The Eagle's strength is a gift from the Fates: Id. III, 18. The Eagle and Kite wedded: *Aes. Fab.* XXXIV.

Various proverbial associations:

'Nil' narras? Visa verost, quod dici solet,
Aquilae senectus. —TER., *Heaut.* 520.

Tam dispar aquilae columba non est.
—MART. X, 65, 12.

Quid congregare cum leonibus vulpes
Aquilisque similes facere noctuas quaeris?
—MART. X, 100, 3.

References to the eagle as a military standard. Maximus Cotta is addressed by Ovid:

Vos eritis nostrae portus et ara fugae
Vos ego complector, Geticis si cingar ab armis.
Utque meas aquilas, vos mea signa sequar.
—OV., *Ex Pont.* II, 8, 68.

The conquered eagles of Crassus:

Signa, decus belli, Parthus Romana tenebat,
Romanaeque aquilae signifer hostis erat.
—OV., *Fast.* V, 585.

These are they whose fathers carried the conquering eagles,
Over all Gaul and across the sea to Ultima Thule.
—JOHNSON (Stedman).

For it was Trajan that carried the battle-flushed eagles to
Dacia.—HAY.

Cf. The condor, frowning from a southern plain,
Borne on a standard, leads a numerous train.—BARLOW.
(*Columbiad.*)

Cf. Turn from the eagles; woo the dove,
For it will glad the angels more
If you will train a vine above
A lowly cottage door.—WATERMAN.
(*Peace on Earth.*)

Who bides at home, nor looks abroad,
He carries the eagles—he masters the sword.—EMERSON.

A battle scene with graphic details:

Gallus at, in castris dum credita signa tuetur,
Concidit ante aquilae rostra cruenta suae.
—PROP. V, 1, 95.

The splendid devotion of a dying standard-bearer. The finest touch of patriotic war verse in Latin literature:

Inde honor ac sacrae custodia Marte sub omni
Alitis: hinc causam nutrit gloria leti.
Namque, necis certus, captae prohibere nequiret
Cum Poenos aquilae, postquam subsidere fata
Viderat, et magna pugnam inclinare ruina,
Occulere interdum et terrae mandare parabat:
Sed, subitis victus telis, labentia membra
Prostravit super atque iniecta morte tegebat.
Verum ubi lux nocte e Stygia miseroque sopore
Reddita, vicini de strage cadaveris hasta
Erigitur, soloque vicens conamine, late
Stagnantem caede et facilem discedere terram
Ense fodit, clausamque aquilae infelicis adorans
Effigiem, palmis languentibus aequat harenas.
Supremus fessi tenuis tum cessit in auras
Halitus, et magnam misit sub Tartara mentem.
—SIL. ITAL. VI, 25.

For thee they fought, for thee they fell,
And their oath was on thee laid;
To thee the clarions raised their swell,
And the dying warrior prayed.—PERCIVAL.

Emblem of Freedom, when thou cleav'st the air—
Emblem of Tyranny, when bathed in blood!
Thou wert the genius of Rome's sanguine wars:
Heroes have fought and freely bled for thee.
(*To the Eagle.*) —KINNEY (Griswold).

Our eagle's wing
Shall mount, our eagle shall be king!
And jackals shall be heard no more
When Freedom's monarch bird shall soar.—READ.

Then from his mansion in the sun
She called her eagle bearer down
And gave into his mighty hand
The symbol of her chosen land.—DRAKE.

Vid. also *The Conquered Banner*, Ryan: "The priest-Tyrtæus of the South" (Sladen).

The eagle as a military standard was an object of worship and reverence. Cf. Sil. Ital. VI, 37, *supra*; Cic., *Cat.* I, 24; Val. Max. VI, 1, 11; Suet., *Cal.* 14.

Illa quidem faeno; sed erat reverentia faeno,
Quantam nunc aquilas cernis habere tuas.
—Ov., *Fast.* III, 115.

For the constellation *aquila* vid. int. al. Cic., *Arat.* 87, 294, 372; Ov., *Fast.* V, 732; VI, 196; Manil. I, 342, 620, 684; V, 487, 710.

The Swan and Eagle wing their silent flight;
And, from their spangled pinions, as they flew,
On Israel's vales of verdure shower the dew.—PIERPONT.
(*Airs of Palestine.*)

Once, could the Roman Eagle soar
Beyond the reach of human eye;
But now, she plumes her wing, no more,
No more invades the sky.—WILLIAM LAKE.
(*Columbia's Eagle.*)

ARDEA. Ἐρωδιός. Heron.

Various species are included in the generic *ardea*.

American parallels: Heron, egret.

Thompson: *The Death of the White Heron*.

Cawein: *The Heron*; Id.: *The Blue Heron*.

And boggy marges of the mere,
Whereon I see the heron stand,
Knee-deep in sable slush of sand.
—MAURICE THOMPSON.

Where tall blue herons stretch lithe necks, and lean
Over clear currents flowing cool and thin,
Through the clean furrows of the pebbly floor.
—MAURICE THOMPSON.

A solitary heron wings its way
Southward—save this no sound or touch of life.
—ALDRICH.

So silent is the air, so hushed, so mute,
That e'en the sentinel heron does not fear
But stands erect, nor drops his lifted foot.—MIFFLIN.

And near its edge, like some gray streak,
Stands gaunt the still fly-up-the-creek.—CAWEIN.
(*The Mill-water.*)

A heron' plume of snow hung o'er;
Memorial of that bird that swept
Its way to Hah-yoh-wont-hah dread,
And whose pure plumage long was kept
To deck the bravest warrior's head.—STREET.

While like the spirit of the coming night
The heron wings on high his sullen flight.—ARLO BATES.

Signs of approaching storm:

Iam sibi tum curvis male temperat unda carinis
Cum medio celeres revolant ex aequore mergi
Clamoreque ferunt ad litora cumque marinae
In sicco ludunt fulicae notasque paludis
Deserit atque altam supra volat ardea nubem.

—VERG., *Geor.* I, 360.

Cf. Luc. V, 555. *Anth. Lat.* 772, 37: Hinc super ardea nubes.
Isid., *Orig.* 12, 7, 21: (Ardea) formidat enim imbres, et super nubes
evolat, ut procellas nubium sentire non possit: cum autem altius vola-
verit, significat tempestatem.

When he leaves the seacoast, and traces on wing the courses of the
creeks or rivers upwards, he is said to prognosticate rain; when down-
wards, dry weather.—ALEXANDER WILSON, op. cit., s. v. GREAT HERON.

The city of Ardea, where the bird *ardea* arose Phoenix-like from
the ruins. Cf. Verg., *Aen.* VII, 411:

Cadit Ardea, Turno
Sospite dicta potens. Quam postquam Dardanus ignis
Abstulit et tepida latuerunt tecta favilla,
Congerie e media tum primum cognita praepes
Subvolat et cineres plausis everberat alis.
Et sonus et macies et pallor et omnia captam
Quae deceant urbem, nomen quoque mansit in illa
Urbs; et ipsa suis deplangitur ardea pennis.

—OV., *Met.* XIV, 573.

The cry of the heron:

A flock of nearly a hundred blue herons alighted on a small island
near us, Londoners', and made the air ring with their noise.—CELIA
THAXTER (*Letters*, p. 175).

¹In Seneca the heron is called Sah-dah-ga-ah, meaning 'the bird of the
clouds.'—*Author's note.*

The Hern's hoarse clang, or Sea-gull's lonely cry.—ALSOP.

And the heron, the Shuh-shuh-gah,
From the melancholy moorlands,
Gave a cry of lamentations,
Gave a cry of pain and anguish.—LONGFELLOW.

No bird is heard; no throat to whistle awake
The sleepy hush; to let its music leak
Fresh, bubble-like, through bloom-roofs of the brake:
Only the green-blue heron, famine weak—
Searching the stale pools of the minnowless creek,—
Utters its call. —CAWEIN.
(*Drouth.*)

ATTAGENA (ATTAGEN). Ἀτταγήν. The Francolin. *Tetrao francolinus*.

American parallels: Partridge, prairie-hen, etc.

Francolins—delicious eating . . . uttered their grated calls near by.—ROOSEVELT, *African Game Trails*, p. 344.

The simplicity of early days:

Piscis adhuc illi populo sine fraude natabat,
Ostreaque in conchis tuta suis.
Nec Latium norat, quam praebet Ionia dives,
Nec quae Pygmaeo sanguine gaudet, avem;
Et praeter pinnas nihil in pavone placebat.
—OV., *Fast.* VI, 173.

The *attagena* is the finest of all game birds:

Inter sapores fertur alitum primus
Ionicarum gustus attagenarum.
—MART. XIII, 61.

Horace deprecates high living:

Non Afra avis descendat in ventrem meum,
Non attagen Ionicus,
Iucundior quam lecta de pinguissimis
Oliva ramis arborum, etc.
—HOR., *Epod.* II, 54.

And men had better stomachs to religion
Than I to capon, turkey-cock or pigeon.
(*New England's Crisis.*) —BENJAMIN TOMPSON.

BUBO. Βύας. Owl, eagle owl.

Strix bubo.

American parallel: Great-horned owl. *Bubo Virginianus.*

Proctor: *The Owl.*

Celia Thaxter: *The Great White Owl.*

The mournful notes of an owl on the roof-top add to the gloom of deserted Dido:

Solaque culminibus ferali carmine bubo
Saepe queri et longas in fletum ducere voces.
—VERG., *Aen.* IV, 462.

Cf. [Hos. Get.] *Medea* 124 (*Anth. Lat.*, p. 66). *Bubo* is feminine only here in the Latin poets: vid. Serv. in loc.

The tremulous sob of the complaining owl.—WORDSWORTH.

There I hear the moping owl,
His dismal whoopings roll,
Upon the heavy ear of night,
In sounds that would thy soul affright.—BIRTHA.

A charm to keep owls away, which has widely survived in modern lore and practice:

Hinc Amythaonius, docuit quem plurima Chiron,
Nocturnas crucibus volucres suspendit et altis
Culminibus vetuit feralia carmina flere.
—COL. X, 348.

Ascalaphus is metamorphosed into an owl. Some description of the bird and an interpretation of its note:

Ingemuit regina Erebi testemque profanam
Fecit avem, sparsumque caput Phlegethontide lymphæ
In rostrum et plumas et grandia lumina vertit.
Ille sibi ablatus fulvis amicitur in alis,
Inque caput crescit, longosque reflectitur unguis,
Vixque movet natas perinertia bracchia pennas:
Foedaque fit volucris, venturi nuntia luctus,
Ignavus bubo, dirum mortalibus omen.
—OV., *Met.* V, 543.

Among other omens of woe to come, an owl was present at the marriage of Tereus and Progne:

Eumenides stravere torum, tectoque profanus
Incubuit bubo thalæmique in culmine sedit.
Hac ave coniuncti Progne Tereusque, parentes
Hac ave sunt facti. —OV., *Met.* VI, 431.

The fateful note of the owl and other warnings did not prevent Myrrha from incestuous union with Conyras, her father :

Ter pedis offensi signo est revocata, ter omen
Funereus bubo letali carmine fecit.
It tamen, et tenebrae minuunt, noxque atra pudorem.
—Ov., *Met.* X, 452.

The gloomy calls of innumerable owls attend the death of Caesar :

Tristia mille locis Stygius¹ dedit omnia bubo :
Mille locis lacrimavit ebur, cantusque feruntur
Auditi sanctis et verba minantia lucis.
—Ov., *Met.* XV, 791.

Likewise, great numbers of owls frequented the ill-omened Roman camp at Cannae :

Obseditque frequens castrorum limina bubo.
—SIL. ITAL. VIII, 634.

The ill-boding notes of an owl were heard when Ibis was born :

Sedit in adverso nocturnus culmine bubo
Funereoque graves edidit ore sonos.
Ov., *Ibis* 223.

Medea uses the heart of an owl in her incantations before the altar of Hecate. Cf. Ov., *Amor.* I, 12, 19.

Mortifera carpit gramina ac serpentium
Saniem exprimit miscetque et obscenas aves
Maestique cor bubonis et raucae strigis
Exsecta vivae viscera. —SEN., *Med.* 731.

Another incantation :

Latratus habet illa canum gemitusque luporum
Quod trepidus bubo, quod strix nocturna queruntur,
Quod stridunt ululantque ferae, quod sibilant anguis.
—Luc. VI, 686.

The owl with its gloomy note is one of the birds of Hades :

Hic vultur, illic luctifer bubo gemit
Omenque triste resonat infaustae strigis.
—SEN., *Her. Fur.* 686.

¹The epithet Stygius may be due to the metamorphosis association. Ascalaphus was the son of Styx. But vid. infra.

Hic dirae volucres pastusque cadavere vultur
 Et multus bubo ac sparsis strix sanguine pennis.
 —SIL. ITAL. XIII, 597.

In augury, the note of an owl from the left annuls the propitious notes of other birds:

Nec caelum servare licet: tonat augure surdo,
 Et laetae iurantur aves bubone sinistro.
 —LUC. V, 395.

For other augural references to owls:

Vid. Stat., *Theb.* III, 508; Claud., *In Eutrop.* II, 406.

Owls in proverbial comparisons, symbolizing the impossible:

Vocalem superet si dirus aedona bubo.
 —CALP. VI, 8.

Praepes funereo cum vulture ludat hirundo,
 Cum bubone gravi nunc philomela sonet.
 —*Anth. Lat.* 390, 27.

And hawk and sparrow shared a nest.—LANIER.

In a simile a comparison is made with the notes of the owl:

Qualis et horrendus funesto carmine bubo
 Conqueritur deflenda gemens dum tristia maestus
 Funerea sub nocte canit, sic anxia nutrix
 Ingemit et tremulas diffundit maesta querelas.
 —DRAC. X, 307.

The *bubo* is associated with Pallas:

Pallada bubo vehit, sed eam rota nulla figurat.
 —*Anth. Lat.* 939.

The onomatopoetic verb for the call of the owl—with its traditional interpretation:

Bubulat horrendum ferali murmure bubo
 Humano generi tristia fata ferens.
 —*Anth. Lat.* 762, 37.

Cf. Varr., *De L. L.* 5, 11; Isid., *Orig.* 12, 7, 39. Wackernagel, op. cit., p. 49.

And the hoarse owl, that now and then booms out
 His harsh, unearthly, melancholy shout.—GEN. ALBERT PIKE.

And the solemn owl, with his dull "too-who,"
Settles down on the side of the old canoe.—EMILY R. PAGE.
(*The Old Canoe.* *Poets of Vermont*, p. 419.)

BUTIO. Ἀστερίας. Bittern.

Ardea stellaris.

American parallel: Greater Bittern. *Butio mugitans.*

Vid. Endicott, *Bitterns.* *Am. Nat.* 3, 169.

The bittern slunk
Amongst the sedge—and lonely hern, that waits
His prey, oft stranded by the insidious ebb.—M'KINNON.

As the hawk whose glance of tawny fire
Is on the bittern's wing.—POLLOCK.

The dying thunders roll o'er dale and scar;
In the still pool the bittern sees the star.—MIFFLIN.

Naturally enough, neither Lucretia nor Margaret Davidson had any exact knowledge of bird life. But such errors as the following are comparatively rare in the American poets:

The woods echo round the bittern's shrill scream,
As he dips his black wing in the wave of the stream.
—LUCRETIA DAVIDSON.

The onomatopoetic call of the marsh frequenting bittern:

Ast ululant ululae lugubri voce canentes
Inque paludiferis butio butit aquis.
—*Anth. Lat.* 762, 41.

Vid. Newton, op. cit., p. 40: "'Butter-bump' corrupted into 'Botley-bumb' and perhaps other uncouth forms, has reference to the booming or bellowing sound for which this species was famous." Cf. Germ. *Rohrdommel*. Wackernagel, op. cit., p. 57.

¹This poem is printed in the last edition of General Pike's poems with the following note:

"While the authorship of this beautiful poem has been credited to General Pike, it has also been denied that he wrote it, and he himself is said to have stated that the honor did not belong to him but to a young lady whose name has never been mentioned to the knowledge of the editor of this volume. The verses were republished in the *Gazette* a few years ago with this reference: 'We do not know from what paper or magazine they were taken—but it was understood that Gen. Pike was the author.'" It is interesting to note that in its newspaper migration from Vermont to Arkansas—from Page to Pike—the little poem of fifty lines has suffered twenty-four textual variations.

And as a bitore bumbleth in the mire.—CHAUCER.

The bittern lone, that shakes the solid ground,
While thro' still midnight groans the hollow sound.

—ALEXANDER WILSON.

The bittern's boom.—EMERSON.

It is the bittern's solemn cry.—PETERSON (Stedman).

Making the solemn bittern stir
Like a half-wakened slumberer.—SLADEN.

Uprising from sedgy brink
The lonely bittern's cry will sink
Upon the startled ear.—HOFFMAN (Griswold).

Or, faintly heard, a bittern cries
Across the tasseled waterweeds.—STEIN.

When bitterns boom, and flapping fly.—STRONG.

Strange insects whirl, and stalking bitterns boom.
—EMMA LAZARUS.

CASSITA. Κούδαλος. Crested Lark. *Alauda cristata*.

The skylark (*Alauda arvensis*), so frequent in all modern literature, strangely enough seems to have made little impression upon the ancient poets. Cf. Theoc. VII, 141 and X, 50. Its song was apparently unnoted or ignored. Even Aristotle does not mention the ecstasy of the soaring bird.¹ This neglect is due to conditions of migration and to the fact that no great metamorphosis myth made the bird prominent in popular fancy. This in turn, I believe, is to be explained by the fact that the song is too joyous for the dramatic sorrows of metamorphosis. Dante (*Par.* XX, 73) responds to the later feeling:

Qual lodoletta, che in aere si spazia
Prima cantando, e poi tace contenta
Dell'ultima dolcezza che la sazia.

American literary parallels: Meadow lark, bobolink.

Vid. Burroughs, *Birds and Poets*, p. 17.

¹In his delightful '*Idylls of Greece*,' Sutherland portrays the song of the lark with great charm—but the descriptions are neither Greek nor Roman. E. g.:

From the fields near-by a lark soar'd up and up
In measured flights with ever beating wing,
And trill'd its benediction o'er a world
Superlatively peaceful.

Sprague's Pipit (No doubt, destined to figure in the future poetical literature of the West.—BURROUGHS.) has not yet come into its manifest inheritance.

Low: *To a Lark.*

Hogg (Stedman): *The Lark.*

Piatt: *A Word with a Skylark.*

Thompson: *To an English Skylark.*

Garland: *The Meadow Lark.*

Dunbar: *The Meadow Lark.*

Matthews: *The Meadow Lark.*

Keeler: *Avila and Sturnellus. A myth of the meadow lark's song at dawn.*

When the bonny gray morning just peeps from the skies,
And the lark mounting, tunes her sweet lay;
With a mind unincumbered by care I arise.
(*Independent Farmer.*) —SUSANNA ROWSON.

The lark had called me at the birth of dawn,
My cheerful toils and rural sports to share.
—JOHN TRUMBULL.

In clouds th' embosom'd lark her matin sings.
(*Conquest of Canaan.*) —TIMOTHY DWIGHT.

Or see before us from the lawn
The lark go up to greet the dawn.—TIMROD.

Hear the new, golden flood of song
The lark pours to the blue.—HIGGINSON.

The meadow-lark at dawn that sings.—HIGGINSON.

Jolliest of our birds of singing,
Best he loved the Bob-o-link.—WHITTIER.

Of the glad bobolink, whose lyric throat
Pealed like a tangle of small bells afloat.—ROBERTS.

The linkèd bubblings of the bobolink.—ROBERTS.

Why, I'd give more for one live bobolink
Than a square mile o' larks in printer's ink.—LOWELL.

My colleague, Professor J. O. Snyder, reports having heard the bobolink several times this past summer (1913) in Nevada. The bird seems to be following the alfalfa and irrigation projects westward.

In the meads,
Shorn of their hay, the yellow-breasted larks
Melodious sung.—M'KINNON.

Gayly sings the meadow lark,
Bidding all the birds assemble.—SHERMAN (Sladen).

The lark and its young portrayed in a prose Fable from Aesop, the beauty of which as a type of its kind is fairly without a parallel in literature:

Avicula, inquit (Aesopus), est parva, nomen est cassita. Habitat nidulaturque in segetibus, id ferme temporis, ut appetat messis pullis iam plumantibus. Ea cassita in sementes forte congesserat tempestiviores; propterea frumentis flavescentibus pulli etiam tunc involucre erant. Dum igitur ipsa iret cibum pullis quaesitum monet eos, ut, si quid ibi rei novae fieret dicereturve, animadverterent idque uti sibi, ubi redisset, nuntiarent. Dominus postea segetum illarum filium adolescentem vocat, et; 'Videsne,' inquit, 'haec ematurisse et manus iam postulare? Idcirco die crastini, ubi primum diluculabit, fac amicos adeas et roges, veniant operamque mutuam dent et messim hanc nobis adiuvant.' Haec ubi ille dixit, discessit. Atque, ubi redit cassita, pulli tremibundi, trepiduli circumstrepere orareque matrem, ut iam statim properet inque alium locum sese asportet: 'Nam dominus,' inquiunt, 'misit, qui amicos roget, uti luce oriente veniant et metant.' Mater iubet eos otioso animo esse: 'Si enim dominus,' inquit, 'messim ad amicos reiecit, crastino seges non metetur neque necessum est, hodie uti vos auferam.' Die, inquit, postero mater in pabulum volat. Dominus, quos rogaverat, opperitur. Sol fervit, et fit nihil. It dies, et amici nulli eunt. Tum ille rursum ad filium: 'Amici isti magnam partem,' inquit, 'cessatores sunt. Quin potius imus et cognatos adfinesque nostros oramus, ut adsint cras temporis ad metendum?' Itidem hoc pulli pavefacti matri nuntiant. Mater hortatur, ut tum quoque sine metu ac sine cura sint, cognatos adfinesque nullos ferme tam esse obsequibiles, ait, ut ad laborem capessendum nihil cunctentur et statim dicto oboediant. 'Vos modo,' inquit, 'advertite, si [modo] quid denuo dicetur.' Alia luce orta, avis in pastum profecta est. Cognati et adfines operam quam rogati sunt dare supersederunt. Ad postremum igitur dominus filio. 'Valeant,' inquit, 'amici cum propinquis. Afferes primo luci falcas duas: unam egomet mihi et tu tibi capies alteram, et frumentum nosmetipsi manibus nostris cras metemus.' Id ubi ex pullis dixisse dominum mater audivit. 'Tempus,' inquit, 'est cedendi et abeundi: fiet nunc dubio procul, quod futurum dixit. In ipso enim iam vertitur, cuia res est, non in alio, unde petitur.' Atque ita cassita nidum migravit, seges a domino demessa est. Hunc, Aesopi apologum Q. Ennius in satiris scite admodum et venuste versibus quadratis composuit. Quorum duo postremi isti sunt, quos habere cordi et memoriae operae pretium esse hercle puto:

Hoc erit tibi argumentum semper in promptu situm,
Necquid expectes amicos, quod tute agere possies.

—GELL. II, 29, 3.

The lark's keen joy was shed!
 For what though the morning sulky was
 And the punctual sun belated,
 His nest was snug in the tufted grass,
 Soft-lined and stoutly plaited,
 And shine sun or stay away
 Nests must be celebrated!—MOODY.

He rose, and singing passed from sight—
 A shadow kindling with the sun,
 His joy ecstatic flamed, till light
 And heavenly song were one.—TABB.
 (*The Lark.*)

Oh, Lark of Europe, downward fluttering near,
 Like some spent leaf at best,
 You'd never sing again if you could hear
 My Blue-Bird of the West!—MRS. PIATT.

CAVANNUS. Κικκάδην, etc. An Owl (?).

Vid. s. v. *PERDIX*, *Anth. Lat.* 390, 29.

CEYX. Κήϋξ. A mythical bird.

Vid. s. v. *ALCEDO* for the myth of Ceyx and Alcyone. *Ceyx* as a bird-name is probably the same as Κήξ (cf. Hom., *Od.* XV, 479), which has been identified by Netolicka, *Naturh. aus Homer*, p. 14, as the Great Crested Grebe, *Podiceps cristatus*, since the cry of this bird suggests the name Ceyx. The grebes, as is well known, build rude floating nests of aquatic plants. The observation of this fact and the mythical association of the *ceyx* and the *halcyon* may be the naturalistic basis of the myths concerning the floating nests of the halcyons. Cf. Plin. 32, 8, 27. For a reference to the floating nests of the *Podiceps cristatus* vid. Newton, op. cit., p. 630. Boraston, *The Birds of Homer*, *Jour. of Hell. Studies*, vol. 31, identifies the Κήξ from its note *kik!* as the Common Tern.

CICONIA. Πελαργός. Stork. *Ciconia alba*.

American literary parallels: Stork, crane.

Bayard Taylor: *The Village Stork*.

Field: *The Stork*.

Stands the well-sweep in the lane,
On its one leg, like a crane
Long and gaunt.—TROWBRIDGE.

The stork in heaven knoweth
Her own appointed time
And like an arrow goeth
Back to our colder clime.—HOSMER.

As when autumnal storms awake their force
The storks¹ foreboding tempt their southern course,
From all the fields collecting throngs arise,
Mount on the wing and crowd along the skies.—BARLOW.
(*Columbiad.*)

The Praenestines shorten *ciconia* to *conea*:

As. Perii! 'rabonem'? Quam esse dicam hanc beluam?
Quin tu 'arrabonem' dicis? Tr. 'A,' facio lucri,
Ut Praenestinis *conea* est *ciconia*.
—PLAUT., *Truc.* 689.

In a simile, reference is made to falling storks—smitten in midair by lightning:

At nos caduci naufragi ut ciconiae,
Quarum bipinnis fulminis plumas vapor
Percussit, alte maestis in terram cecidimus.
—VARRO, *Sat. Men.* Bücheler, *Petr. Sat.*, p. 190.

Vines are best planted when the stork (*candida avis*) arrives, as a harbinger of spring:

Optuma vinetis satio, cum vere rubenti
Candida venit avis longis invisâ colubris.
—VERG., *Geor.* II, 319.

Cf. Isid., *Orig.* XII, 7: *Ciconiae veris nuntiae, societatis comites, serpentium hostes.* Sid. II, 14, 2: *Usque ad adventum hirundineum vel ciconinum Iani Numaeque ninguidos menses.*

A certain Rufus brought into fashion the eating of young storks:

Tutus erat rhombus tutoque ciconia nido
Donec vos auctor docuit praetorius.
—HOR., *Sat.* II, 2, 49.

¹Here Barlow clearly had in mind the Homeric and later classical epic similes referring to the fall migration of the crane. Vid. s. v. GRUS.

The crane (*grus*) later came into vogue, cf. Plin. X, 30, 3: Cornelius Nepos, qui Augusti principatu obiit, scribit ciconias magis placere, quam grues: cum haec nunc ales inter primas expetatur, illam nemo velit attigisse. Vid. s. v. GRUS.

This bird when fat is considered by many to be excellent eating.—ALEXANDER WILSON, op. cit., s. v. *American Bittern*.

The young are said to be excellent for the table, and even old birds, when in good order, and properly cooked, are esteemed by many.—ALEXANDER WILSON, op. cit., s. v. *Great Heron*.

The Rufus mentioned above was rejected and this epigram against him followed:

Ciconiarum Rufus iste conditor
Hic est duobus elegantior Plancis.
Suffragiorum puncta non tulit septem.
Ciconiarum populus ultus est mortem.

—PORPHYR. in loc., Büch., P. L. M., p. 327.

Antigone, daughter of Laomedon, was metamorphosed into a stork:

Pinxit et Antigonem, ausam contendere quondam
Cum magni consorte Iovis, quam regia Iuno
In volucrem vertit: nec profuit Ilion illi
Laomedonve pater, sumptis quin candida pennis
Ipsa sibi plaudat crepitante ciconia rostro.

—OV., *Met.* VI, 93.

Cf. Serv. ad. *Aen.* I, 27: 'Spretæ formæ' referunt ad Antigonam, Laomedontis filiam, quam a Iunone propter formæ adrogantiam in ciconiam constat esse conversam.

And sacred stork, thought human soul disguised.—BAILEY.

A brief description of the habits of the stork, which is not a winter resident. The affection felt for the bird:

Ciconia etiam grata peregrina hospita
Pietaticultrix gracilipes crotalistria
Avis, exul hiemis, titulus tepidi temporis,
Nequitiae nidum in caccabo fecit modo.

—PUB. SYR., Ribb. Com. Rom. Frag., p. 304.

Cf. Isid., *Orig.* XII, 7, 17: Eximia illis circa filios pietas; nam adeo nidos impensius fovēt, ut assiduo in cubitu plumas exuant. Quantum

autem temporis impenderint in foetibus educandis, tantum et ipsae invicem a pullis aluntur. Plin. X, 23, 32: Genetricum senectam invicem educant. Juv. I, 116: Quaeque salutatio crepitat Concordia nido.

And the sparrow finds her nest
In the temple's sacred rest.—TICHNOR.

My nest upon a temple stands.—BAYARD TAYLOR.

Did he give us the beautiful stork above
On the chimney top with its large round nest?
—LONGFELLOW.

Behind the back of Janus, no one imitating (with fingers) the clapping of the stork's bill, makes mockery of the god:

O Iane, a tergo quem nulla ciconia pinsit.
—PERS. I, 58.

Isid., *Orig.* 20, 15, 3: Ciconia levat ac deprimit rostrum dum clangit.
The feeding habits of storks, young and old:

Serpente ciconia pullos
Nutrit et inventa per devia rura lacerta
Illi eadem sumptis quaerunt animalia pinnis.
—JUV. XIV, 74.

Plin. X, 24: Illis in Thessalia tantus honor serpentium exitio habitus est, ut ciconiam occidere capitale est, eadem legibus poena, qua in homicidas.

The Fable of the Fox and the Stork:

Ad coenam vulpis dicitur ciconiam
Prior invitasse, et illi in patina liquidam
Posuisse sorbitionem, quam nullo modo
Gustare esuriens potuerit ciconia.
Quae vulpem cum revocasset, intrito cibo
Plenam lagonam posuit: huic rostrum inserens
Satiatur ipsa et torquet convivam fame.
Quae cum lagonae collum frustra lamberet,
Peregrinam sic locutam volucrem accepimus:
'Sua quisque exempla debet aequo animo pati.'
—PHAED. I, 26.

Field: *The Cobbler and Stork.* The association of the stork with the beginnings of babyhood does not occur in ancient literature.

A folk-lore tale from Oppianus:

In Italia (inquit Oppianus), ut fertur, cum serpens quidam ad nidum prorepens ciconiarum pullos devorasset et alteram deinde sequentis anni foeturam sic iter perdidisset, ciconiae tertio demum anno reversae, novam quandam avem et prius non visam (quae brevior quidem ciconiis erat, sed rostrum magnum et acutum ensis instar a capite exerebat) secum adduxerunt, indicata nimirum ei foetus calamitate sui, sive pollicitationibus ullis sive verbis, ut opem ferret invitata. Nam utrum aves et animantes aliae, suum inter se colloquium nobis ignotum misceant, in dubium vocari potest. Avis haec, nondum absoluto ciconarium foetu, coniuncta eis non erat: pullis vero iam exclusis cum parentes ad comparandum pullis avique custodi victum longius avolarent, ipsa nidum non deseruit, ut serpenti obsisteret. Serpens igitur paulo post progressus e latibulo, pullos aggreditur: et licet ab ave custode rostro impeteretur, non statim recessit, sed erectus corpore, caudaeque innitens, se opponebat, et secundo iam ictus spiris involere custodem frustra moliebatur, utcunque plurimis se flexibus insinaret, nam facile evadebat avis in sublime se recipiens. Sic dum ille perdere, haec servare pullos annituntur, plurimis tandem ille vulneribus confossus iacuit: at non impune, avem enim in conflictu dentibus venerantis adeo laesit, ut omnes ei pennae defluerent. Cum vero revertendi tempus appetiisset, ac reliquae ciconiae, iam avolassent, parentes cum pullis servatis, ut beneficii memores se declararent, tantis permanserunt, donec novis ei pennis renatis simul avolarent.

—OPP., *Ixeut.*, Gesner, op. cit., p. 256.

The clattering note of the stork's bill:

Longoque ciconia collo
Glottorat et ranas grandi rapit improba rostro.
—*Anth. Lat.* 733, 7.

Glottorat immenso maerens ciconia rostro.
—*Anth. Lat.* 762, 29.

Vid. Wackernagel, op. cit. 75, 137; Isid., *Orig.* XII, 7. Ciconiae vocatae a sono, quo crepitant, quasi *cicamiae*, quem sonum oris potius esse constat, quam vocis, quia eum quatiente rostro faciunt.

Cf. supra, Pers. I, 58. Ov. *Met.* VI. 97 and Juv. I, 116; where *crepitare* is wrongly taken by Mayor, as it is also in the lexicons:

Mettendo i denti in nota di cicogna.—DANTE, *Inf.* XXXI, 36.

He just glanced downward
And snapped to his beak.—CHRISTINA G. ROSETTI.

Thus mused the stork, with snap of beak.—BAYARD TAYLOR.

COLUMBA. Περιστέρα, πέλεια. Pigeon, dove. *Columba livia*. Blue-rock pigeon. Rock-dove.

Columba was the name usually applied to both the wild blue-rock pigeon and to its descendant, the domestic pigeon. *Columba* and *palumbes* were sometimes confused.

American parallels: Dove, pigeon, ring dove.

Newton, op. cit., p. 163. Fowler, op. cit. 219-223.

Lorrenz: *Die Taube im Alterthume*.

Thompson, op. cit., p. 132: Astronomic lore.

Philip Robinson: *The Poets' Birds*. Atlantic 49, 675.

Benjamin (Griswold): *The Dove's Errand*.

Willis: *The Belfry Pigeon*.

Mace: *The Two Doves*.

Some reflections on the relation of the dove to Venus, to whom the dove was sacred:

Et Veneris dominae volucres, mea turba, columbae
Tinguunt Gorgoneo punica rostra lacu.

—PROP. III, 3, 27.

Punica is more accurate for the ring-dove (*palumbes*) than for the rock-dove (*columba*).

See white winged swans, see red bill'd doves.—MILLER.

To Venus' shrine no altars raised are,
No venom'd shafts from painted quiver fly:
Nor wanton Doves of Aphrodite's carr.

—JOHN ROGERS (Kettell).

The blue-eyed Aphrodite, whom the doves,
White as her breasts, delight in following.—SUTHERLAND.

Sed cape torquatae, Venus o regina, columbae
Ob meritum ante tuos guttura secta focos.

—PROP. IV, 5, 65.

Torquatae seems to point to the ring-dove, cf. Mart. XIII, 67, *Torquatus palumbus*.

Nor the pigeon so glossy a ring on her throat.—ALICE CARY.

In *Aen.* VI, 190 ff. Vergil, I believe, had the ring-dove or wood-pigeon in mind, although he uses *columbae*. Cf. Morris, op. cit., vol. IV, p. 170: 'The rock-pigeon does not perch in trees.'

Necte comam myrto; maternas iunge columbas.

Qui deceat, currum vitricus ipse dabit:

Inque dato curru, populo clamante triumphum,

Stabis et adiunctas arte movebis aves.

—Ov., *Am.* I, 2, 23.

Ne violes teneras periuro dente columbas,

Tradita si Gnidiae sunt tibi sacra deae.

—MART. XIII, 66.

Hic iuvenum lapsus suaque aut externa revolvit

Vulnera, (pro! quanta est Paphii reverentia, mater,

Numinis!) hic nostrae deflevit fata columbae!

—STAT., *Silv.* I, 2, 100.

Cf. Mart. I, 7; VII, 14.

Why doves are dear to Venus:

Quae autem causa sit ficta, propter quam Venus columba delecta sit, talis est; quod Venus et Cupido, cum quodam tempore voluptatis gratia in quosdam nitentes descendissent campos, lasciva contentia certare coeperunt, qui plus sibi gemmates colligeret flores. Quorum Cupido adiutus mobilitate pennarum, postquam naturam corporis volatu superavit, victus est numero. Peristera enim nympa subito accurrit et adiuvando Venerem superiorem effecit cum poena sua. Cupido siquidem indignatus mutavit puellam in avem, quae a Graecis *περίστερα* appellatur. Sed poenam honor minuit. Venus namque consolatura puellae et innocentis transfigurationem, columbam in tutela sua esse mandavit.

—LACT., ad Stat. *Theb.* IV, 226.

In Euphratem flumen de coelo ovum mira magnitudine cecidisse dicitur, quod pisces ad ripam evoluerunt. Super quod columbae considerunt et excafactum excludisse Venerem.

—HYG., *Fab.* 197.

Veneri consecratas, proper fetum frequentem et coitum.

—SERV., ad Verg. *Aen.* VI, 193.

Cf. also Ov., *Met.* XV, 389; Sil. Ital. IV, 106.

Take Venus, with her turtle doves.—FESSENDEN.

How doves were sacrificed to Venus. Soothsaying:

Ergo saepe suo coniunx abducta marito

Uritur Idaliis alba columba focus.

—Ov., *Fast.* I, 451.

Cf. supra. Prop. IV, 5, 65.

Calidae pulmone columbae

Tractato Armenius vel Commagenus haruspex.

—JUV. VI, 549.

Lovers ever ran before the clock.
Oh, ten times faster Venus' pigeons fly.—SHAKESPEARE.

Pity thou,
And I will offer thee white doves, whose note
Sounds softer in the woods than hymning lutes.
—SUTHERLAND.

And since from Aphrodite's dove
The pattern of the fan was given
No wonder it breathes of Love.—HOLMES.

Even as, wafted by her doves,
She kissed the faces of the yearning waves.—STEDMAN.

Vid. also Gen. Albert Pike: *Hymn to Venus*.

Color and descriptive epithets applied to the dove:

Alba, albulus, albiplumen, niveo, sine labe, pulchra, torquatae,
aeriae, praecipites, sublimem in nube, timidus, timidissima, trepidas,
pavidae, placida, trepidante penna, teneras, castus, blanda, sine felle,
molles, Argoa.

Love to her
Was whiter than the foam-white doves that warmed
The rosy feet of Venus.—SUTHERLAND.

In the east
The sky is like the bosom of a dove,
All gray and crimson.—SUTHERLAND.

How the oracles of Zeus at Dodona and in Libya were occasioned by
two doves from Thebes:

Nam cui dona Iovi non divulgata per orbem,
In gremio Thebes geminas sedisse columbas?
Quarum, Chaonias pennis quae contigit oras,
Implet fatidico Dodonida murmure quercum.
At quae, Carpathium super aequor vecta, per
Auras in Libyen niveis tranavit concolor alis,
Hanc sedem templo Cythereia condidit ales;
Hic, ubi nunc aram lucosque videtis opacos,
Ductore electo gregis, admirabile dictu,
Lanigeri capitis media inter cornua perstans,
Marmaricis ales populis responsa canebat.
—SIL. ITAL. III, 677.

The air with birds they flocked; oracular dove,
Thrice holy in tradition from the egg,
Hid by Aturian turtle, and the flood,
To Jordan's sacred streamlet.—BAILEY.

Where once the mighty voice of Jove
 Rang through Dodona's haunted grove,
 No more the dove with sable plumes
 Swept through the forest's georgeous glooms.

—SARAH HELEN WHITMAN.

Cf. Herod. II, 55.

For a discussion of the doves at Dodona, vid. Jebb, *Soph.*, *Trach.*

1166. Appendix; Serv. ad. Verg., *Aen.* III, 466.

For doves in Palestine, vid. Tib. I, 7, 17; Hyg. 197.

White dove-cots were preferred. Other references to dove-cots.

Totus autem locus et ipsae columbarum cellae poliri debent albo tectorio, quoniam eo colore praecipue delectatur hoc genus avium. Colum. 8, 8.

Aspicias, ut veniant ad candida tecta columbae,
 Accipiat nullas sordida turris aves?

—Ov., *Trist.* I, 9, 7.

God! if I might in this white dove-cote dwell.—HIGGINSON.

A poor soiled dove of this dear St. Mark.—MILLER.

Cf. Gould, *The Dove on the Chimney*.

Quaeque gerit similes candida turris aves,
 Munera sunt dominae.

—MART. XII, 31, 6.

Quasque colat turres, Chaonis ales habet.

—Ov., *A. A.* II, 150.

Nam prius incipient turres vitare columbae,

Antra ferae, pecudes gramina, mergus aquas;

Quam male se praestat veteri Graecinus amico.

—Ov., *Ex Pont.* I, 6, 51.

Sonantque turres plausibus columbarum.

—MART. III, 58, 18.

And hear, from their high perch along the eaves,

The bright-necked pigeons call.—ELIZABETH A. ALLEN.

Qualiter Idaliae volucres, ubi mollia frangunt

Nubila, iam longum coeloque domoque gregatae,

Si iunxit pennas diversoque hospita tractu

Venit avis, cunctae primum mirantur et horrent:

Mox propius propiusque volant, atque aere in ipso

Paulatim fecere suam, plausuque secundo

Circueunt hilares et ad alta cubilia ducunt.

—STAT., *Ach.* I, 372.

The epithet *hilares* is almost unique as applied to bird life among the Roman poets. The note of joy is the prevailing modern concept, save where the ancient tradition is followed. Vid. s. v. LUSCINIA and Note IV, RUSCINIA.

Sic ubi perspicuae scandentem limina turreis
Idaliae volucres fulvum adspexere draconem,
Intus agunt natos et feta cubilia vallant
Unguibus, imbellesque citant ad proelia pennas.
Mox ruerit licet ille retro, tamen aera nudum
Candida turba timet, tandemque ingressa volatus
Horret et a mediis etiamnum respicit astris.

—STAT., *Theb.* XII, 15.

There too the dove-cot stood, with its meek and innocent inmates

Murmuring ever of love.—LONGFELLOW.

There must have been a dove-cote too, I know,
Where white-winged birds like Spirits come and go.

—STEDMAN.

Cf. also Varr., *R. R.* III, 7; *Juv.* III, 200.

The metamorphosis of Dercetis and her daughter Semiramis:

Illa, quid e multis referat (nam plurima norat),
Cogitat et dubia est, de te, Babylonia, narret,
Derceti, quam versa squamis velantibus artus
Stagna Palaestini credunt motasse figura
An magis, ut sumptis illius filia pennis
Extremos albis in turribus egerit annos.

—OV., *Met.* IV, 44.

But all agree that from no lawful bed,
This great renowned empress issued,
For which she was obscurely nourished,
Whence rose that fable, she by birds was fed.

(*Semiramis.*)

—ANNE BRADSTREET.

The poets feign'd her turn'd into a dove,
Leaving the world to Venus soar'd above.

(*Semiramis.*)

—ANNE BRADSTREET.

Medea passes over the city of Alcidas, whose daughter was transformed into a dove:

Transit et antiquae Cartheia moenia Ceae,
Qua pater Alcidas placidam de corpore natae
Miratus erat nasci potuisse columbam.

—OV., *Met.* VII, 368.

Tenderly her dove-eyes glistened.—MORRIS.

And then a dove, dear nunlike dove
With eyes all tenderness.—MILLER.

Now what is thy secret, serene gray dove?—MILLER.

How the daughters of Anius were changed into doves :

Nec qua ratione figuram
Perdiderint, potui scire aut nunc dicere possum:
Summa mali nota est: pennas sumpsere tuaeque
Coniugis in volucres, niveas abiere columbas.
—Ov., *Met.* XIII, 672.

Where, transform'd to sacred doves,
Many a blessed Indian roves
Through the air on wing, as white
As those wond'rous stones of light.—THOMAS MOORE.
(*Poems relating to America.*)

Daedalion, metamorphosed into a hawk, preys upon the Thisbean doves:

Illius virtus reges gentesque subegit,
Quae nunc Thisbaeas agitat mutata columbas.
—Ov., *Met.* XI, 299.

Cf. Hom., *Il.* II, 502; Stat., *Theb.* VII, 261. Doves are still found in enormous numbers at Kokosi, on the site of ancient Thisbe, and from this fact Chandler identified the site. Vid. Frazer, *Paus.*, vol. V, p. 160.

References to the Argo, Symplegades and Dove:

Tuque tuo Colchum propellas remige Phasim,
Peliacaeque trabis totum iter ipse legas,
Qua rudis Argoa natat inter saxa columba
In faciem prorae pinus adacta novae.
—PROP. III, 22, 11.

Et qui movistis duo litora, cum ratis Argo
Dux erat ignoto missa columba mari.
—PROP. II, 16, 39.

Qualis et ille fuit, quo praecipiente columba
Est data Palladiae praevia duxque rati.
—Ov., *Ib.* 265.

How a dove (possibly a carrier-pigeon—cf. Thompson, *op. cit.*, p. 143) came to Aretulla:

Aëra per tacitum delapsa sedentis in ipsos
 Fluxit Aretullae blanda columba sinus.
 Luserat hoc casus, nisi inobservata maneret
 Permissaque sibi nollet abire fuga.
 Si meliora piaë fas est sperare sorori
 Et dominum mundi flectere vota valent,
 Haec a Sardois tibi forsitan exulis oris
 Fratre reversuro, nuntia venit avis.
 —MART. VIII, 32.

Bear gently, Ocean's carrier-dove,
 Thy errands to and fro.—WHITTIER.

True as the homing-bird flies with its message.
 —WARD (Stedman).

Like homeward pigeon with uncaged wing.—LAMPMAN.

But nightly, like white courier doves
 They all come home to rest.—HIGGINSON.

As some stray carrier-pigeon onward hies
 O'er alien spire, and dim cathedral dome,
 With weakening pinions, that reluctant roam
 Athwart the high, inhospitable skies;
 Famished and faint, with eager, yearning eyes,
 Whirled by the winds above the wild sea's foam,
 Till, at the last, outworn, he gains his home,
 Falls at his mistress's feet, content, and dies.—MIFFLIN.

Medea flees to Jason even as a dove flees when seeing the shadow of
 a hawk:

Ecce autem pavidæ virgo de more columbæ,
 Quæ super ingenti circumdata præpetis umbra
 In quemcumque tremens hominem cadit: haud secus illa
 Acta timore gravi mediam se immisit.
 —VAL. FLACC. VIII, 32.

But fly all helpless here to me
 A fluttered dove that night of dread.—MILLER.

Like shadows by a brilliant day
 Cast down from falcons on their prey.
 —PINKNEY (Duyckinck).

Whose omen flits
 Across thy heart as o'er a troop of doves
 The fearful shadow of the kite.—LOWELL.

Seest thou shadows sailing by
 As the dove with startled eye
 Sees the falcon's shadow fly?—LONGFELLOW.

For *columba* used as a term of endearment, vid. Plaut., *Asin.* 693; *Cas.* 138. This use is by no means 'very frequent' (cf. Thompson, op. cit., p. 142).

Very likely the poor chick sheds copious tears.—FIELD.

I kissed him and called him my little bird
O' th' woods, my dove, my darling.—ALICE CARY.

Poor little dove! Thou tremblest like a leaf.—LONGFELLOW.

Cruel death!
To take away my dove, my lamb, my darling.—LONGFELLOW.

My sad, sweet dove.—MILLER.

A Christian use of *columba* from the grave of an unknown pope:

Quam domino fuerant devota mente parentes,
Qui confessorem talem genuere potentem
Adque sacerdotem sanctum, sine felle columbam,
Divinae legis sincero corde magistrum.
—BÜCH., *Carm. Epig.* 787.

The Holy Dove of Peace, the promised guest,
Folded its fragrant pinions on my breast.
—SARAH HELEN WHITMAN.

With patient hand Jesus in clay once wrought,
And made a snowy dove that upward flew.
(*Jesus and the Dove.*) —MARIA LOWELL (Griswold).

Go then, my Dove, but now no longer mine!
Leave Earth and now in Heavenly Glory shine.
(*Epitaph of Abigail, his wife, 1703.*)—COTTON MATHER.

So with the wings of Faith and Love,
And feathers of an Holy Dove,
She bid this wretched world adieu
And swiftly up to Heaven flew.—NOYES.
(*A consolatory poem, addressed to Cotton Mather
upon the death of his wife. 1703.*)

A soft dove gray that shrouds the dead.—MILLER.

As regards color, white doves are most common:

Et ille nunc superbus et superfluens
Perambulabit omnium cubilia
Ut albus columbus aut Adoneus?
—CAT. XXIX, 6.

Nec tantum niveo gavisast ulla columbo
 Compar, quae multo dicitur improbus
 Oscula mordenti semper decerpere rostro.
 Quam quae praecipue multivolas mulier.
 —CAT. LXVIII, 124.

Nam fuit haec quondam niveis argentea pennis
 Ales, ut aequaret totas sine labe columbas.
 —OV., *Met.* II, 536.

Et variis albae iunguntur saepe columbae.
 —OV., *Her.* XV, 37.

Lilia tu vincis ne adhuc delapsa ligustra,
 Et Tiburtino monte quod albet ebur;
 Spartanus tibi cedit olor Paphiaeque columbae,
 Cedit Erythraeis eruta gemma vadis.
 —MART. VIII, 28, 11.

Absit ut albiplumem valeat calcare columbam
 Inter tot niveas rustica milvus avis.
 —ANTH. *Lat.*, 729, 3.

Ad iuga blanda sedet niveas moderata columbas,
 Non satianda donis, divae soror alma.
 —ANTH. *Lat.* 941, 22.

It was white as whitest dove.—HIGGINSON.

The white doves filled the air,
 Like white souls of the saints.—LONGFELLOW.

References to other colors:

Pluma columbarum quo pacto in sole videtur,
 Quae sita cervices circum collumque coronat;
 Namque alia fit uti claro sit rubro pyropo,
 Inter dum quodam sensu fit uti videatur
 Inter caeruleum viridis miscere zmaragdus.
 —LUCR. II, 799.

Colla Cytheriacae splendent agitata columbae.
 —BAEHRENS, *P. L. M.*, p. 368.

A white dove drowned in Tuscan wine.—MILLER.

And rows of doves that sit on beams,
 With plump and glossy breasts.—ALICE CARY.

The reflections from their necks were very beautiful.—THOREAU,
op. cit., p. 113.

Cf. Cic., *Acad.*, II, 19, 79; Sen., *Nat. Quaest.* I, 5, 6; Aus., *Epist.* III, 15.

Notes on the nesting habits of the dove:

Qualis spelunca subito commota columba
Cui domus et dulces latebroso in pumice nidi
Fertur in arva volans, plausumque exterrita pennis
Dat tecto ingentem, mox aëre lapsa quieto
Radit iter liquidum, celeres neque commovet alas.

—VERG., *Aen.* V, 213.

This is one of the most exact descriptions of bird life in the Latin poets. *Columba* is here applied to the wild rock-dove, the progenitor of our domesticated pigeons. Cf. Shairp, *op. cit.*, p. 165.

Piscium et summa genus haesit ulmo
Nota quae sedes fuerat columbis.

—HOR., *Od.* I, 2, 9.

The change to *palumbis* is, of course, better ornithology, but it is unnecessary, for while *columba* is usually applied to the rock-dove and the domesticated pigeon, and *palumbes* to the wood- or stock-dove (which Horace has in mind here), yet there existed at all times a slight mingling of names, habits, and mythological lore. Cf. especially *sine felle columbam* and *palumbes sine felle*. By Wordsworth the ring-dove is repeatedly called the stock-dove. Cf. Mackie, *op. cit.*, p. 82.

True as the stock-dove to her shallow nest
And to the grove that holds it.—WORDSWORTH.

He went to her as goes the wild grey dove
Straight to its mate, though hills rise high, and hide
The brake where bides its loved one and their nest.

—SUTHERLAND.

Pet name for a child. The mss. show the expected confusion of *columbo* and *palumbo*. The former is more likely correct:

At cur non potius, teneroque columbo,
Et similes regum pueris, poppare minutum
Poscis, et iratus mammae lallare recusas?

—PERS. III, 16.

Yet they contrived to rear their little dove,
And he repaid them with the tenderest love.—TIMROD.

Doves feed their young by regurgitation. Some references and similes derived from this fact. The conjugal affection of doves was proverbial:

Ubi quid dederam, quasi columbae pulli in ore ambae meo
usque eratis. —PLAUT., *Asin.* 209.

Sinuque amicam refice frigidam caldo
Columbulatim labra conserens labris.
—CN. MATIUS, BAEHRENS, *P. L. M.*, p. 282.

Oscula dat cupido blanda columba mari.
—OV., *Am.* II, 6, 56.

Exemplo iunctae tibi sint in amore columbae.
Masculus et totum femina coniugium.
—PROP. II, 15, 27.

Issa est purior osculo columbae.
—MART. I, 109, 2.

Basia me capiunt blandas imitata columbas.
—MART. XI, 104, 9.

Amplexa collum basioque tam longo
Blandita, quam sunt nuptiae columbarum.
Rogare coepit Phyllis amphoram vini.
—MART. XII, 65, 8.

Cf. also Cat. LXVIII, 125 *supra*; Plin. X, 104.

The loving turtle and his lovely spouse,
From bough to bough, in deep affection move,
And with chaste joy reciprocate their love.
—ROGER WOLCOTT.

The wail of an unmated dove.—MILLER.

Far down the wood, a one-desiring dove.—LANIER.

The righteous man that wandering dove received,
And to her mate restored, who, with sad moans,
Had wonder'd at her absence.—SIGOURNEY.

The turtle on yon' withered bough
Who lately moaned her murdered mate,
Has found another partner now.—FRENEAU.

Monday Captain Hall called to speak to me about my paper on Pigeons; he complained that I expressed the belief that Pigeons were possessed of affection and tenderest love, and that this raised the brute species to a level with man.—AUDUBON, *Journal*, vol. I, p. 212.

A pun on the word *columbus*:

Ch. Isti capiti dicito.
Credo alium in aliam beluam hominem vortier:
Illic in columbum, credo, leno vortitur,
Nam in columbari collus hau multo post erit;
In nervuom ille hodie nidamenta congeret.

—PLAUT., *Rud.* 886.

'Stocks' and 'stock-dove' show the pun; but the tame pigeon, not the stock-dove, was probably in the poet's mind.

Cupid's wings compared to the ruffled back of a much handled dove:

Horrida pendebant molles super ora capilli,
Et visa est oculis horrida pinna meis;
Quolis in aeriae tergo solet esse columbae,
Tractantum multae quam tetigere manus.

—OV., *Ex Pont.* III, 3, 17.

The pet dove of Stella:

Stellae delictum mei columba,
Verona licet audiente dicam,
Vicit, Maxime, passerem Catulli.
Tanto Stella meus tuo Catullo,
Quanto passere maior est columba.

—MART. I, 7.

For the proverbial preying of eagles upon doves.

Cf. Verg., *Ecl.* IX, 13; Ov., *Met.* I, 506; *A. A.* I, 117; Mart. X, 65, 12, etc. Vid. s. v. AQUILA.

For the traditional preying of hawks upon doves.

Cf. Lucr. III, 752; Verg., *Aen.* XI, 721; Ov., *Met.* V, 605; VI, 529; *Fast.* II, 50; *Trist.* I, 1, 75; Hor., *Od.* I, 37, 17; Sil. Ital. V, 282, etc. Vid. s. v. ACCIPITER.

For the association of dove and kite, vid. Hor., *Ep.* XVI, 32; vid. s. v. MILVUS.

For the raven and dove, vid. Juv. II, 63, vid. s. v. CORVUS.

For the swan and dove, vid. *Anth. Lat.* 939, vid. s. v. CYCNUS.

References to the note of the dove:

Sonantque turres plausibus columbarum.

—MART. III, 58, 18.

Et castus turtur atque columba gemunt.

—*Anth. Lat.* 762, 20.

Ite agite, o iuvenes, et desudate medullis.
 Omnibus inter vos! non murmura vestra columbae,
 Brachia non hederæ, non vincant oscula conchæ.
 —*Anth. Lat.* 711.

Cf. Wackernagel, *op. cit.*, p. 59; Winteler, *op. cit.*, p. 17.

He did not cease: but cooed and cooed:
 And somewhat pensively he wooed.—WORDSWORTH.

Why the note of the dove is full of sadness:

But under Abel's date-palm trees
 The dove forgot its tone,
 And since, o'er other lands and seas,
 It makes its plaintive moan;
 Thus Deity hath marked the crime
 For cycles passing round—
 The blood that flowed in Adam's time
 Is crying from the ground—
 For this is why the dove declares
 Its tearful, sad unrest.—STANTON.

For the dove as a target for archers, *vid. Verg., Aen.* V, 488.
 For the dove on a cup as a work of art, *vid. Mart.* VIII, 6, 10.

The dove was hewn in Karnah stone
 Before fair Jordan's banks were known.—MILLER.

For the Fable of the Kite and the Doves, *vid. s. v. MILVUS.*
 A later myth. How pearls are polished:

As pearls, we're told, that fondling doves
 Have play'd with, wear a smoother whiteness.
 (*Poems relating to America.*)—THOMAS MOORE.

CORNICULA. Κολοίως. Jackdaw.

Corvus monedula, L.

American parallel: Blue-jay.

The *cornicula* who robbed birds of their plumage is reduced to
 ridicule:

Quid mihi Celsus agit? Monitus multumque monendus
 Privatas ut quaerat opes et tangere vitet
 Scripta, Palatinus quaecumque recepit Apollo;
 Ne, si forte suas repetitum venerit olim
 Grex avium plumas, moveat cornicula risum
 Furtivis nudata coloribus? —HOR., *Ep.* I, 3, 15.

Cf. also Phaed. I, 3, s. v. GRACULUS.

To shine in borrowed plumes, with base design.—FRENEAU.

A jackdaw faith, mischievous, chatt'ring thing,
Dress'd in a plume of every heathen's wing.—CLIFFTON.

Who, jackdaws still, the peacock's pomp assume,
And strut in pride with half a pilfer'd plume.
—LINCOLN (Kettell).

CORNIX. Κορώνη. Crow. *Corvus corone*.

American parallels: Crow, raven.

Wilson (Stedman): *To a Crow*.

Trowbridge: *Watching the Crows*.

Hosmer: *The Crow*. Id.: *Origin of the Crow*.

Gardner: *A Flock of Mythological Crows*. *Pop. Sci. Mo.* 18, 43.

The long life of the crow is proverbial in the Latin poets:

Vivit et armiferae cornix invisæ Minervæ,
Illa quidem saeculis vix moritura novem.
—Ov., *Am.* II, 6, 35.

Cf. int. al. Lucr. V, 1083: cornicum ut saecula vetusta; Ov., *Met.* VII, 274: novem cornicis saecula passæ; Hor., *Od.* III, 17, 9: annosa cornix; *Priap.* 61, 11: cornix anus; Aus., *Id.* XVIII, 3; *Anth. Lat.* 344, 2: Aut quantum cornix atque elefans superest.

A raven once an acorn took
From Bashan's strongest, stoutest tree;
He hid it near a murmuring brook,
And lived another oak to see.—FRENEAU.

The oldest crow that caws below
Recalls no sadder case.—TICHNOR.

The century living crow.—BRYANT.

The many-wintered crow.—TENNYSON.

And all noisy on the tree-tops cawed the rooks, that ancient race.
—LINEN.

Sed Cinaræ breves
Annos fata dederunt,
Servatura diu parem
Cornicis vetulae temporibus Lycen.
—Hor., *Od.* IV, 13, 22.

Iam cornicibus omnibus superstes
 Hoc tandem sita prurit in sepulchro
 Calvo Plotia cum Melonthione.—MART. X, 67, 5.

Rex Pylius, magno si quidquam credis Homero,
 Exemplum vitae fuit a cornice secundae.
 —JUV. X, 247.

How the crow as a weather prophet foretells the coming of storms:

Et partim mutant cum tempestibus una
 Raucisonos cantus cornicum et saecula vetusta
 Corvorumque greges ubi aquam dicuntur et imbris
 Poscere et interdum ventos aurasque vocare.
 —LUCR. V, 1082.

Fuscaque non numquam cursans per litora cornix
 Demersit caput et fluctum cervice recepit.
 —CIC., *Prog.* 223.

Tum cornix plena pluviam vocat improba voce
 Et sola in sicca secum spatatur¹ arena.
 —VERG., *Geor.* I, 388.

A comparison of the above lines from Verg., Cic., and Lucr. might seem to give some support for the genuineness of the marginal line found in mss. Med. and Gud. at Verg., *Geor.* I, 389: Aut caput obiectat querulum venientibus undis. The resemblance, however, to *Geor.* I, 386, is suspicious; furthermore, the epithet *querulus* as applied to the crow is unique, and is apparently due to the metamorphosis association. But cf.:

Who feeds the ravens, when the croaking brood
 Raise hoarsely *querulous* their plaint to God?
 —DEVENS (Kettell).

Quodque caput spargens undis, velut occupet imbrem,
 Instabili gressu metitur litora cornix.
 —LUC. V, 556.

Cras foliis nemus
 Multis et alga litus inutili
 Demissa tempestas ab Euro
 Sternet, aquae nisi fallit augur
 Annosa cornix.
 —HOR., *Od.* III, 17, 6.

¹Cf. In there *stepped* a stately Raven of the saintly days of yore.—POR.

In the bare cornfield *stalked* the silent crow.—MIFFLIN.

Along the brim the lovely plover *stalks*
 And to his visionary fellow talks.—KNAPP(?) (Duyckinck).
 (*A New England Pond.*)

Antequam stantes repetat paludes
 Imbrium divina avis imminentum,
 Oscinem corvum prece suscitabo
 Solis ab ortu. —HOR., *Od.* III, 27, 9.

Or gloom the strand, and croak the coming storm.
 (*Conquest of Canaan.*) —DWIGHT.

Warned is the reaper of foul weather nigh,
 When the prophetic creature, in its flight,
 With changed note in its discordant cry,
 Moves like a gliding kite.
 While louder grows that wild, presageful call,
 Sheaves are piled high upon the harvest wain,
 And the stack neatly rounded ere the fall
 Of hail, and driving rain.—HOSMER.

Cf. Cawein, *The Rain-Crow*. With us this name is most often applied to the cuckoo. Vid. Alexander Wilson, *op. cit.*, s. v. YELLOW-BILLED CUCKOO.

How the crow appeared in omens and warnings:

Impetritum, inauguratumst: quovis admittunt aves,
 Picus et cornix est ab laeva, corvus, parra ab dextera
 Consuedent. —PLAUT., *Asin.* 259.

Quod nisi me quacumque novas incidere lites
 Ante sinistra cava monuisset ab ilice cornix,
 Nec tuus hic Moeris, nec viveret ipse Menalcas.
 —VERG., *Ecl.* IX, 14.

From the second line is evidently made Verg., *Ecl.* I, 18:

Saepe sinistra cava praedixit ab ilice cornix.

Cf. And the ill-omened cawing of the crow.—LONGFELLOW.

Cf. Cic., *De Div.* I, 39; Hopf., *op. cit.*, p. 115.

Sis licet felix, ubicumque mavis,
 Et memor nostri, Galatea, vivas,
 Teque nec laevus vetet ire picus.
 Nec vaga cornix.—HOR., *Od.* III, 27, 13.

Heard with alarm the cawing of the crow,
 That mingled with universal mirth,
 Cassandra-like, prognosticating woe.—LONGFELLOW.

How the crow was used in incantations:

Cornicum immeritas eruit ungue genas,
Consuluitque striges nostro de sanguine, et in me
Hippomenes fetæ semina legit equæ.

—PROP. IV, 5, 13.

Nec defuit illic
Squamea Cinyphii tenuis membrana chelydri
Vivacisque iecur cervi; quibus insuper addit
Ora caputque novem cornicis saecula passæ.

—OV., *Met.* VII, 272.

How a crow tried to dissuade a raven, then the favorite bird of Apollo (and pure white), from revealing to the god the infidelity of the nymph Coronis. As a warning to the raven the crow tells her own story: how for tale-bearing (when she was yet the maiden Coronis) concerning the basket in which Erechthonius was concealed, she had been banished from the protection of Minerva and succeeded by the owl.

The first words of the crow to the raven:

Quem garrula motis
Consequitur pennis, scitetur ut omnia, cornix;
Auditaque viae causa, "Non utile carpis,"
Inquit, "iter. Ne sperne meae praesagia linguae."

—OV., *Met.* II, 547.

For the garrulity of the crow cf.

And from the wood-top calls the crow through all the gloomy
day.—BRYANT.

Shrieks the crow the live long day.—WHITTIER.

Whole flocks o' camp-meetin' crows
Shoutin' hallelujah.—DUNBAR.

How the crow saw the basket opened:

Abdita fronde levi densa spectabar ab ulmo,
Quid facerent. —OV., *Met.* II, 557.

The crow moralizes upon her action and gives a warning to other birds:

Pro quo mihi gratia talis
Redditur, ut dicar tutela pulsa¹ Minervæ,
Et ponar post noctis avem.² Mea poena volucres
Admonuisse potest, ne voce pericula quaerant.

—OV., *Met.* II, 562.

¹Cf. OV., *Am.* II, 6, 35: Cornix invisâ Minerva.

²Cf. s. v. NOCTUA.

How Coronis was metamorphosed into a crow by Minerva to save her from the violence of Neptune:

Forma mihi nocuit. Nam cum per litora lentis
 Passibus, ut soleo, summa spatiarer arena,
 Vidit et incaluit pelagi deus; utque precando
 Tempora cum blandis absumpsit inania verbis;
 Vim parat et sequitur. Fugio, densumque relinquo
 Litus, et in molli nequidquam lassor arena.
 Inde deos hominesque voco: nec contigit ullum
 Vox mea mortalem. Mota est pro virgine virgo,
 Auxiliumque tulit. Tendebar brachia coelo:
 Brachia coeperunt levibus nigrescere pennis.
 Reicere ex humeris vestem molibar: at illa
 Pluma erat, inque cutem radices egerat imas.
 Plangere nuda meis conabar pectora palmis:
 Sed neque iam palmas, nec pectora nuda gerebam.
 Currebam: nec, ut ante, pedes retinebat arena
 Sed summa tollebar humo; mox acta per auras
 Evehor, et data sum comes inculpata Minervae.
 Quid tamen hoc prodest, si diro facta volucris
 Crimine Nyctimene nostro successit honori?

—Ov., *Met.* II, 572.

For the hostility of the crows and owls cf. int. al. Ov., *F.* II, 89:
 Et sine lite loquax cum Palladis alite cornix.

The Crow himself sometimes falls a prey to the superior strength and rapacity of the Great Owl, whose weapons of offense are by far the more formidable of the two.—ALEXANDER WILSON, op. cit., s. v. CROW.

Why the crows avoid the Acropolis of Athens and the regions near Cumae:

Is locus est Cumas aput, acri sulphure montes
 Oppleti calidis ubi fumant fontibus aucti.
 Est et Athenaeis in moenibus, arcis in ipso
 Vertice, Palladis ad templum Tritonidis almae,
 Quo numquam pennis appellunt corpora raucae
 Cornices, non cum fumant altaria donis;
 Usque adeo fugitant, non iras Palladis acris
 Pervigili causa, Graium ut cecinere poetae;
 Sed natura loci opus efficit ipsa suapte.

—LUCR. VI, 747.

Lapwing and reptile shun the curst abode,
 And the foul dragon, now no more a god,
 Trails off his train; the sickly raven flies;
 A wide strong-stench't Avernus chokes the skies.—BARLOW.
 (*Columbiad.*)

Cf. Leake, *Athens* I, p. 206. "As to the crow, the explanation seems to be that these birds, which are seen in great numbers around the rocks of the Acropolis, seldom rise to the summit."

For a dream in which a crow appears as symbolic of a trouble-causing procuress, cf. *Ov., Am.* III, 5.

For Tranio (as a crow) and two old men (as vultures), vid. *Plaut., Most.* 822 ff., s. v. VULTUR.

For proverbial reference to the crow and the acanthis vid. s. v. ACALANTHIS.

For a speaking crow vid. *Suet., Dom.* 23; *Baehrens, P. L. M.*, p. 370.

For the Fable of the Eagle, Crow and Tortoise, vid. s. v. AQUILA.

For the Fable of the Crane, Crow and Countryman, vid. s. v. GRUS.

For the Fable of the Crow and the Sheep, vid. *Phaed., Fab. Nov.* 24.

CORVUS. Κόραξ. Raven. *Corvus corax*, L.

The name *corvus* was applied also by Roman writers to both the crow and the rook.

For a discussion of *corvus* and *cornix* cf. Fowler: *A Year with the Birds*, p. 234 ff.

American parallels: Raven, crow.

Macdonald: *Consider the Ravens*.

Poe: *The Raven*.

The raven, originally white, was made black because of his tale-bearing to Apollo concerning the nymph Coronis.

Vid. the charming paraphrase by Saxe, *How the Raven Became Black*.

Di maris adnuerant: habili Saturnia curru
Ingreditur liquidum pavonibus aethera pictis,
Tam nuper pictis caeso pavonibus Argo,
Quam tu nuper eras, cum candidus ante fuisses,
Corve loquax, subito nigrantes versus in alas.
Nam fuit haec quondam niveis argentea pennis
Ales, ut aequaret totas sine labe columbas,
Nec servaturis vigili Capitolia voce
Cederet anseribus, nec amanti flumina cycno.
Lingua fuit damno; lingua faciente loquaci
Cui color albus erat, nunc est contrarius albo.

—*Ov., Met.* II, 531.

No raven's notes her sacred groves annoy.—R. T. PAINE.

How the raven was forbidden by Apollo to consort with white birds:

Sperantemque sibi non falsae praemia linguae,
Inter aves albas vetuit consistere corvum.
—Ov., *Met.* II, 631.

The color of ravens in flight:

Conveniebat enim, corvos quoque saepe volantis
Ex albis album pennis iactare colorem.
—LUCR. II, 820.

A plagiarized page suggests a raven among swans:

Sic niger in ripis errat cum forte Caystri,
Inter Ledaeos ridetur corvus olores.
—MART. I, 53, 7.

An old man who dyed his hair black:

Mentiris invenem tinctis, Lentine, capillis;
Tam subito corvus, qui modo cygnus eras.
—MART. III, 43, 1.

Cf. *Anth. Lat.* 182.

When gay and raven-headed.—CARLTON.

His locks are black as a raven.—LONGFELLOW.

'Tis not the hair like raven's plume.—TICHNOR.

M. Valerius won his cognomen *Corvinus* from the aid given him by a raven:

Ex uno quidam celebres, aut torquis adempti,
Aut corvi titulos auxiliaris habent.
—Ov., *Fast.* I, 601.

Atque hic, egregius linguae, nomenque superbum,
Corvinus, Phoebea sedet cui casside fulva
Ostentans ales proavitae insignia pugnae,
Plenus et ipse deum, et socium terrente pavore,
Immiscet precibus monita atque his vocibus infit.
—SIL. ITAL. V, 77.

Cf. Prop. III, 11, 64: Est cui cognomen corvus habere; Liv. 7, 26: Conserenti iam manum Romano corvus repente in galea consedit in hostem versus. Cf. also Man., *Astr.* I, 778.

For the age of the *Corvi* vid. s. v. CORNIX.

Corvi as weather prophets:

Cf. Hor., *Od.* III, 27, 8.

Et e pastu decedens agmine magno
 Corvorum increpuit densis exercitus alis.
 —VERG., *Geor.* I, 381.

Cf. Lucr. V, 1084, s. v. CORNIX. *Class. Rev.* 1904, p. 280. Note by Mr. Powell: "Vergil's exact knowledge of rooks may be illustrated by 'corvorum exercitus,' which refers not merely to their numbers, but to their military precision and discipline." Cf. *Anth. Lat.* 772, 47: *Corvus et agmina confert.*

A beautiful picture of the return of the *corvi* to their nests and young after a storm:

Tum liquidas corvi presso ter gutture voces
 Aut quater ingeminant, et saepe cubilibus altis,
 Nescio qua praeter solitum dulcedine laeti,
 Inter se in foliis strepitant; iuvat imbribus actis
 Progeniem parvam dulcisque revisere nidos.
 —VERG., *Geor.* I, 410.

The *corvi* here, as often, are probably rooks.

Cf. Fowler, *op. cit.*, p. 143; Glover, *op. cit.*, p. 112; Thompson, *op. cit.*, s. v., p. 91.

'*Presso gutture*' means 'with clear, deep note.' Vid. Powell, *Cl. Rev.* 1904, p. 280.

Sweet throat, come back! O liquid, mellow throat.
 —BROWN (Stedman).

In eager flights the birds wing to their nests.
 —TILLEY (Stedman).

A raven on the left is a bad sign:

Cf. Cic., *De Div.* I, 39.

Non temere est quod corvos cantat mihi nunc ab laeva manu:
 Semul radebat pedibus terram et voce crocibat sua.
 —PLAUT., *Aul.* 624.

And heard the boding raven croak his song.—CHATTERTON.

That raven on yon left-hand oak
 (Curse on his ill-betiding croak!)
 Bodes me no good.—GAY.

With sympathetic wo, thy noontide ray,
 Phoebus, suspend; ye clouds, obscure the day;
 Her face let Cynthia veil,
 Thick darkness spread her wing,
 And the night-raven sing,
 While Britons their sad fate bewail.—PIETAS ET GRATULATIO.

The boding raven e'en forgets to croak,
And nature seems in silent agony.—SUSANNA ROWSON.
(*Thunderstorm*.)

And she heard, in her ear, a death-bell toll,
And the raven croak on a blasted tree.
(*Crystalina, a Fairy Tale*.)—BY AN AMERICAN (Kettell).

Caw! Caw! the rooks are calling,
It is a sound of woe, a sound of woe.—LONGFELLOW.

An expression of gratitude to a raven for his timely warning:

Ni subvenisset corvus, periissem miser.
Nimis hercle ego illum corvum ad me veniat velim
Qui indicium fecit, ut ego illic aliquid boni
Dicam; nam quod edit tam duim quam perduim.
—PLAUT., *Aul.* 669.

A raven on the right is a good sign:

Plaut., *Asin.* 259. Vid. also s. v. CORNIX. Augury was a special gift to the raven from the fates: Phaed. III, 18 (vid. s. v. AQUILA).

Priapus makes a reference to ravens:

Mentior at si quid, merdis caput inquiner albis
Corvorum. —HOR., *Sat.* I, 8, 37.

The raven often says 'good-day' first:

Nunquam dicis Ave, sed reddis, Naevole, semper,
Quod prior et corvus dicere saepe solet.
—MART. III, 95, 1.

Cf. Mart. XIV, 74: Corve salutator. For an explanation of the obscene allusion in the next line cf. Arist., *De Gen.* III, 6, 7566; Plin. X, 15; Macr. II, 4.

Ravens as scavenger birds:

Atque ideo, postquam ad Cimbros stragemque volabant
Qui nunquam attigerant maiora cadavera corvi,
Nobilis ornatur lauro collega secunda.
—JUV. VIII, 251.

Non equidem dubito, quin primum inimica bonorum
Lingua execta avido sit data vulturio;
Effossos oculos voret atro gutture corvus,
Intestina canes, cetera membri lupi.
—CAT. CVIII, 3.

Mere trunks of ice, though limn'd like human frames,
 And lately warmed with life's endearing flames,
 They cannot taint the air, the world infest,
 Nor can you tear one fibre from their breast.
 No! from their visual sockets as they lie,
 With beak and claws you cannot pluck an eye—
 The frozen orb, preserving still its form,
 Defies your talons as it braves the storm,
 But stands and stares to God as if to know
 In what curst hands he leaves his world below!
 Fly then, or starve, though all the dreadful road
 From Minsk to Moscow with their bodies strow'd
 May count some myriads, yet they cannot suffice
 To feed you more beneath these dreadful skies.—BARLOW.
 (*Advice to a Raven in Russia.*)

These lines are from Barlow's last poem, which was written in Europe during Napoleon's retreat from Moscow. Vid. Duyckinck, op. cit., vol. I, p. 414.

For the mating of the raven and dove as symbolic of the impossible cf. *Anth. Lat.* 390, 30, s. v. COLUMBA.

The raven broods very late in the year:

Corvus maturis frugibus ova refert.

—*Anth. Lat.* 690, 2.

The breeding habits of the raven and crow were totally unnoted in antiquity.

Cf. Hudson, op. cit. p. 174: "The raven is the earliest bird to breed in England: the nest building begins in January and the eggs are laid in February and March."

The winter-fearless crow.—"JOHN PHILIP VARLEY."

How the raven appears in Latin proverbs:

"Non hominem occidi." Non pasces in cruce corvos.

—HOR., *Ep.* I, 16, 48.

Dat veniam corvis, vexat censura columbas.

—JUV. II, 63.

Felix ille tamen corvo quoque rarior albo.

—JUV. VII, 202.

An passim sequeris corvos testaue lutoque,
 Securus quo pes ferat, atque ex tempore vivis?

—PERS. III, 61.

The call and flight of the quail:

Scar'd by the pond'rous mower starts the rail,
Or, whirring, flies the 'frighted, ominous quail.
—CHATTERTON.

When the quail all day
Pipe on the chaparral hill.—MILLER.

But the quail, whose quick whistle has lured me along,
No more will recall his stray'd mate with his song.
—STREET.

And, tilted on the ridered rails
Of deadnin' fences, "Old Bob White"
Whissels his name in high delight.—RILEY.

The bobwhite's liquid yodel, and the whirl of sudden flight.
—RILEY.

CUCULUS. Κόκκυξ. Cuckoo. *Cuculus canorus*.

Cuculus is onomatopoeitic. Cf. *Anth. Lat.* 762, 35: Et cuculi cuculant.

American literary parallels: Black-billed cuckoo, yellow-billed cuckoo, cow-bunting. The last named (after the manner of the European cuckoo) intrudes its eggs into the nests of other birds.

Hosmer: *The Cuckoo*.

Saxe (from Yriarte): *Fable of the Bee and the Cuckoo*.

Wordsworth: *Ode to the Cuckoo*.

Logan: *To the Cuckoo*.

Matthew Arnold: *Thyrsis*.

Cuculus used as a term of reproach, a usage probably first suggested by the vagabond habits of the bird:

. . . Immo es, ne nega, omnium (hominum) pol nequissimus
At enim cubat cuculus. Surge, amator, i domum.
—PLAUT., *Asin.* 923 (cf. 934).

Mocks married men: for thus sings he.
Cuckoo, cuckoo! O word of fear,
Unpleasing to a married ear.—SHAKESPEARE.

Hephaistos, the lame cuckold.—STEDMAN.

But indolence, like the cow-bird,
That's hatched in an alien nest.—TROWBRIDGE.

It can't build nests, for it's—the air!
I know a boy that knows!—MRS. PIATT.
(*His Views of the Cuckoo*.)

Cf. also Plaut., *Pseud.* 96; *Trin.* 245; *Pers.* 282 and possibly 173.
How Jupiter, in the form of a cuckoo, beguiled Juno on Mount Thoma-
max. Vid. Pausan II, 17, 4, and Schol. ad Theocr. XV, 16:

Oft there came
Blest visions to his soul of forms divine;—
Of white-armed Juno, in that hour of love,
When, fondling close the cuckoo, tempest-chilled,
She all unconscious in that form did press
The mighty sire of the eternal gods
To her soft bosom.—GRACE GREENWOOD.

It was an insult to call a belated pruner a cuckoo. A hint from the
spring migration and spring song of the bird:

Tum Praenestinus salso multoque fluenti
Expressa arbusto regerit convicia, durus
Vindemiator et invictus, cui saepe viator
Cessisset, magna compellans voce cuculum.
—HOR., *Sat.* I, 7, 28.

Or heard from branch of flowering thorn
The song of friendly cuckoo warn
The tardy-moving swain.—ALLSTON.

Cf. Plin. 18, 66, 249; Aus., *Idyll.* X, 167.

A cuckoo chuckles, half throttled on a neighboring tree.
—THOREAU, *op. cit.*, p. 111.

And the cuckoo's shy, complaining note
Mocks the maidens in the corn.—BAYARD TAYLOR.

The cuckoo in American lore foretells the coming of rain:

"Here in this book," she said,—in faltering tones,
As sweet and sad as those the cuckoo frames,
Hid in her leafy covert, when the wind
Sighs from the east and clouds are set for rain.—PROCTOR.

The call of the cuckoo to its mates during the spring migration:

Nunc cuculus cantans socios¹ iter ire perurget.²
—*Anth. Lat.* 733, 13.

¹Burmah; the ms. reading is unintelligible.

²Cf. Newton, *op. cit.*, p. 119: "Its arrival is at once proclaimed by the peculiar and in nearly all languages onomatopoeic cry of the cock—a true song, since it is confined to the male sex and to the season of love."

The last reference is the equivalent of the English, 'A wild goose chase.' Cf. Aes., *Ag.* 394, and Eur., *Auge*, Fr. 271, Nauck.

Ah! foolish man! that sets his heart upon
Such empty shadows, such wild Fowl as these.

—MICHAEL WIGGLESWORTH.

For ravens as poets vid. Pers., *Prol.* 12, s. v. PICA.

For the raven as the bird of Apollo cf. Ov., *Met.* V, 329: Delius in corvo; *Fast.* II, 250: 'I, mea,' dixit (Phoebus), 'avis'; *Met.* II, 545; Stat., *Silv.* II, 4, 17: Planga Phoebeius ales; Stat., *Theb.* III, 506: Comes obscurus tripodum; Petron., *Sat.* 122: Delphicus ales; Aus., *Idyll* XI, 1, 5: Phoebeius oscen; Cat. LXVI, 57: Famulum (vid. note by Ellis).

For the constellation of Corvus vid. Cic., *Arat.* 219, 292; Ov., *Fast.* II, 243.

For the Fable of the Fox and the Raven vid. Phaedr. I, 3; Hor., *Ep.* I, 17, 50; *Sat.* II, 5, 55. Cf. Carryl, *The Sycophantic Fox and the Gullible Raven*.

For the Fable of the Traveller and the Raven vid. Aes. Fab. XXI.

For the call of the raven cf. Wackernagel, op. cit., p. 43; *Anth. Lat.* 762, 28: Crocitat corvus.

The raven croaked.—EMERSON.

Crows and blackbirds, jays and ravens,
Clamorous on the dusky tree tops.—LONGFELLOW.

And de ole crow croak: 'Don' work, no, no.'—LANIER.

'Karock, karock,' the ravens cry.—STRONG.

COTURNIX. *Ορνις. Quail. *Coturnix communis*, or *C. dactylosonans*.

L. L. *Quaquila*; O. Fr. *Quaille*; M. Fr. *Caille*; Ital. *Quaglia*.

American parallel: *O. Virginianus*; Quail, 'Bob-white', Colin. The last is given by Hernandez as the original old Mexican name.

Harris: *The Bonny Brown Quail*.

Johnson: *Bob-white*.

References to Delos, Ortygia, and the metamorphosis of Latona, etc. into quails do not occur in the Latin poets, but vid.:

From somewhere hidden in the dreamy dale—

Latona's sorrow yet within her note—

Reft of her comrades, o'er the stubbled oat

We heard the calling of the lonely quail.—MIFFLIN.

Coturnix used as a term of endearment:

Dic me igitur tuom passerculum, gallinam, coturnicem,
Agnellum, haedillum me tuom dic esse vel vitellum,
Prehende auriculis, compara labella cum labellis.
—PLAUT., *Asin.* 666.

Quails were given as pets to patrician lads:

Nam ubi illo adveni, quasi patriciis pueris aut monerulae
Aut anites aut coturnices dantur, quicum lusitent,
Itidem haec mihi advenienti upupa, qui me delectem, datast.
—PLAUT., *Capt.* 1002.

Quails fatten on hellebore:

Praeterea, nobis veratrum est acre venenum,
At capris adipēs et coturnicibus auget.
—LUCR. IV, 640.

Cf. Plin. X, 197; X, 33; Thompson, *op. cit.*, p. 125.

Quails live in constant strife and thereby become old:

Ecce, coturnices inter sua praelia vivunt,
Forsitan et fiant inde frequenter anus.
—OV., *Am.* II, 6, 27.

Cf. Newton, *op. cit.*, p. 755: "During both migrations immense numbers are netted for the market. On capture they are placed in long, narrow, low cages, darkened to prevent the prisoners from fighting."

In a simile Martial likens himself to a parrot and an anonymous poet to a quail:

Credis hoc, Prisce,
Voce ut loquatur psittacus coturnicis,
Et concupiscat esse Canus ascaules?
—MART. X, 3, 7.

Quails are too worthless to offer in sacrifice:

Verum haec nimia est impensa, coturnix
Nulla umquam pro patre cadet.
—JUV. XII, 97.

Cf. also Phaed. I, 3, s. v. GRACULUS.

And clouds of quails, from every region driven,
Blacken'd the fields, and fill'd the bounds of heaven.
(*Conquest of Canaan.*) —TIMOTHY DWIGHT.

Πρῶτος τῶν πτηνῶν ὑμῖν τὸ ἔαρ ἀγγέλλων: Dion., *De Avibus*, I, 13.

The cuckoo told his name to all the hills.—TENNYSON.

Sure, he's arrived,
The tell-tale cuckoo; Spring's his confidant,
And he lets out her April purposes!—ROBERT BROWNING.

Hark how the jolly cuckoos sing
Cuckoo! to welcome in the spring.—JOHN LYLY.

The cuckoo's April call.—BAYARD TAYLOR.

I hear a cuckoo's silver call,
That stirs the slumberous solitude
With many a mellow rise and fall.—PROCTOR.

Again the year is at the prime
With flush of rose and cuckoo-croon.—SCOLLARD.

Thou hast no sorrow in thy song,
No winter in thy year.—LOGAN.

Cares the cuckoo for the woods
When the red leaves are down?—SILL.

And beyond the meadow the cuckoo lingers.—STRONG.

From that spot I heard a Cuckoo cry, for I do not, like the English, call it singing. Many people speak in raptures of the sweet voice of the Cuckoo, and the same people tell me in cold blood that we have no birds that can sing in America. I wish they had a chance to judge of the powers of the Mock-bird, the Red Thrush, the Cat-bird, the Oriole, the Indigo Bunting and even the Whip-poor-will.—AUDUBON, *Journal*, vol. I, p. 245.

Logan, whose "Cuckoo" will sing forever,
For a brief moment, my attention caught.—HOSMER.

CYCNUM and OLOR. Κύκνος. Swan. Mute swan, *Cygnus olor*.

Whistling swan or whooper, *C. musicus*.

American parallels: Trumpeter swan and whistling swan.

Hosmer: *Address to the Swan*.

The exalted position of the swan in the ancient poets can be rationalized only by its connection with astronomical lore and myths of metamorphosis, whose inner meanings are for the most part veiled to us. (Cf. Thompson, op. cit. Preface and passim.) The widely attested belief in the swan's song, however, does, I believe, rest upon real

observation, later expanded by the associations and influences mentioned above. In this connection the following testimony from Elliot. *op. cit.*, p. 24, is of more than ordinary interest:

"The song of the dying swan has been the theme of poets for centuries, and is generally considered one of those pleasing myths that are handed down through the ages. I had killed many swan and never heard aught from them at any time, save the familiar notes that reach the ears of every one in their vicinity. But once, when shooting in Currituck Sound over water belonging to a club of which I am a member, in company with a friend, a number of swan passed over us at a considerable height. We fired at them, and one splendid bird was mortally hurt. On receiving his wound the wings became fixed and he commenced at once his song, which was continued until the water was reached, nearly half a mile away. I am perfectly familiar with every note a swan is accustomed to utter, but never before nor since have I heard any like those sung by this stricken bird. Most plaintive in character and musical in tone, it sounded at times like the soft running of the notes in an octave.

And now 'twas like all instruments,
Now like a lonely flute;
And now it is an angel's song
Which makes the heavens be mute.

and as the sound was borne to us, mellowed by the distance, we stood astonished, and could only exclaim,

'We have heard the song of the dying swan.'

For the other side int. al. cf. Harting, *op. cit.*, p. 201 ff. Neri, *op. cit.*, p. 10. "Il canto dei cigni celebrato da tutti i poeti è pura finzione, emettendo anzi quest' animale un suono sgradevolissimo."

Ferrariae multos cygnos vidimus, sed cantores sane malos, neque melius ansere canere.—SCALIGER, quoted by Thompson (*op. cit.*, p. 107), who is also a dissenter.

Epithets:

Albus, amans flumina, Amyclaeus, argutus, candens, candidus, canorus, cantans, Caystrius, Cyllenius, dulcis, flebilis, fluvialis, flumineus, Idalius, innocuus, Ledaëus, loquax, lugubri voce, moribundus, niveus, plumeus, purpureus, Oebalius, raucus, Spartanus, senex.

The haunts of swans. The Minco, the Po, etc.:

Saltus et saturi petito longinqua Tarenti,
Et qualem infelix amisit Mantua campum,
Pascentem niveos herboso flumine cygnos.

—VERG., *Geor.* II, 197.

The swan, once familiar in the region of Mantua, is now rarely to be seen. This condition has been brought about by possible changes in the climate and by the drainage of swamps and marshes. Vid. Glover, *op. cit.*, p. 112. Fowler, *Year with Birds*, pp. 143, 148, 153.

The wild swan swims the waters' azure breast
With graceful sweep, or, startled, soars away,
Cleaving with mounting wing the clear, bright air.
—ELLET (Griswold).

Then other swans wide-winged and white as snow,
Flew overhead and topp'd the timbered hills.—MILLER.

Speed thou upon thy white swans' wings.—FIELD.

Haud procul Hennaeis lacus est a moenibus altae,
Nomine Pergus, aquae. Non illo plura Caystros
Carmina cygnorum labentibus audit in undis.
—Ov., *Met.* V, 385.

Haud secus atque alto in luco cum forte catervae
Consedere avium, piscosove amne Padusae
Dant sonitum rauci per stagna loquacia cyni.
—VERG., *Aen.* XI, 456.

Rauci is almost unique as an epithet of real observation applied to the ordinary note of the swan, without the influence of the usual metamorphosis association. It is truly Vergilian.

Cf. Et canoras non tacere diva iussit alites.
Iam loquaces ore rauco stagna cyni perstreput.
—Perv. *Ven.* 85.

Guiltless swans frequent the Elysian fields of the birds:

Colle sub Elysio nigra nemus ilice frondens,
Udaque perpetuo gramine terra viret.
Si qua fides dubiis: volucrum locus ille piarum
Dicitur, obscenae quo prohibentur aves.
Illic innocui late pascuntur olores,
Et vivax Phoenix, unica semper avis.
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Vid. s. v. AQUILA. Cf. int. al. Verg., *Aen.* I, 392. Stat., *Theb.* III, 524; VIII, 674.

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Cygnus in auspiciis semper laetissimus ales,
 Hunc optant nautae, quia se non mergit in undas.
 —AEM. MAC., Baehrens, P. L. M., p. 344.

For the color of the swan vid. Epithets, supra, and cf. the following:
 Hor., *Od.* IV, 1, 10; Ov., *Met.* II, 536; Mart. I, 115, 2; VIII, 28, 13;
 Val. Flacc. VI, 102; Sil. Ital. XIII, 115; XIV, 190, et al.

Throat as white as the throat of a swan
 And all as proudly graceful held.—CARLTON.

A perfect wife is as rare as a black swan. Proverbial.

Rara avis in terris nigroque simillima cygno.
 —JUV. VI, 165.

An honest treasure like a black-plumed swan,
 Not every day our eyes may look upon.—HOLMES.

No *rara avis* was honest John
 (That's the Latin for "sable swan").—SAXE.

A negro slave's name:

Nanum cuiusdam Atlanta vocamus:
 Aethiopem Cycnum parvam extortamque puellam
 European. —JUV. VIII, 33.

Ovid is now becoming old:

Iam mea cycneas imitantur tempora plumas,
 Inficit et nigras alba senecta comas.
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Udaque perpetuo gramine terra viret.
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Illic innocui late pascuntur olores,
Et vivax Phoenix, unica semper avis.
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Ovid, in his sweetest verse,
Loved thy praises to rehearse;
Flaccus, in his polished lay,
Tribute unto thee did pay,
And in Plato's mighty tome
Ever wilt thou find a home.—HOSMER.

A swan soft floating tow'ds a magic strand.—LANIER.

Swans the prey of eagles:

Namque volans rubra fulvus Iovis ales in aethra
Litoreas agitabat aves turbamque sonantem
Agminis aligeri; subito cum lapsus ad undas
Cygnum excellentem pedibus rapit improbus uncis.
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Qualis ubi aut leporem aut candenti corpore cygnum
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—VERG., *Aen.* XI, 456.

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For an old man who dyed his hair, cf. Mart. III, 43.

For the constellation vid. int. al. Thompson, op. cit., p. 107; Manil. *Astron.* I, 335; II, 31 et al.; Stat., *Theb.* VI, 521; *Anth. Lat.* 761, 9.

The swan in various comparisons of poets:

Lucretius (swallow) and Epicurus (swan), Lucr. III, 7; Horace (bee) and Pindar (swan), Hor., *Od.* IV, 2, 25; Fidentius (crow) and Martial (swan), Mart. I, 53, 7. For the goose and swan in this connection cf. Verg., *Ecl.* IX, 36; Prop. III, 26, 84 et al., and vid. s. v.

ANSER.

Cf. Mifflin. Sonnet. *Milton* (Eagle).

Horace becomes a swan:

Iam iam residunt cruribus asperae
Pelles, et album mutor in alitem
Superne, nascunturque plumae.
Per digitos humerosque plumae.

—HOR., *Od.* II, 20, 9.

The transformation of the poet into a swan realistically portrayed before our eyes is a very bold treatment of the Roman poetic usage of the metamorphosis idea, and the Ode should be interpreted and estimated with this usage in mind. Cf. the more symbolical treatment of Eur., *Frag.* 903.

Well might the Roman Swan, along
The pleasing Tiber pour his song,
When bless'd with ease and quiet;
Oft did he grace Maecenas' board,
Who would for him throw by the lord,
And in Falernian riot.—EVANS (Kettell).

"Rare old Ben" could find no name
Worthy of a Shakespeare's fame
But thine own, majestic bird!
Now a consecrated word
With unmatched poetic love
Intertwined for evermore.—HOSMER.

Not every crow, nor croaking raven,
Can match the tuneful swan of Avon.—FESSENDEN.

When the Swan of sweet Avon touched hand to the lyre.
—MATTHEWS.

But again I ask'd,
 "What nurtured Shakespeare?" The rejoicing birds
 Wove a wild song, whose burden seem'd to be,
 He was their pupil when he chose, and knew
 Their secret maze of melody to wind,
 Snatching its sweetness for his winged strain
 With careless hand.—SIGOURNEY.

How often gazing where a bird reposes,
 Rocked on wavelets, drifting with the tide,
 I lose myself in strange metempsychosis
 And float a sea-fowl at a sea-fowl's side.—HOWELLS.

From my window turning
 I find myself a plumeless biped still;
 No beak, no claws, no sign of wings discerning—
 In fact with nothing birdlike but my quill.—HOWELLS.

My Calderon, my nightingale,
 My Arab soul in Spanish feathers.—LOWELL.

New England's poet-laureate
 Telling us spring has come again.—ALDRICH.
 (*The Blue Bird.*)

Let Tennyson his Lilian sing
 And lovely Oriana,
 And scale the skies with tireless wing,
 In praise of Mariana.—GEN. ALBERT PIKE.

Like his own sky-lark, up at Heaven's gate,
 Above the earth and all its meaner things,
 He sang, and soared higher than mortal ken.
 (*Shelley.*) —GEN. ALBERT PIKE.

There, like her lark, gay Chaucer leads the day,
 The matin carol of his country's day.—BARLOW.
 (*Columbiad.*)

Swift I mount me on the plume
 Of my Wakon-Bird, and fly.—THOMAS MOORE.
 (*Poems Relating to America.*)

Why is't thus, this sylvan Petrarch
 Pours all night his serenade?
 'Tis for some proud woodland Laura,
 His sad sonnets are all made!
 But he changes now his measure—
 Gladness bubbling from his mouth—
 Jest, and gibe, and mimic pleasure—
 Winged Anacreon of the South!
 (*The Mocking Bird.*) —MEEK.

The metamorphosis of Cynus (the son of Sthenelus and king of Liguria), into a swan, with a description of the process:

Adfuit huic monstro proles Stheneleia Cynus,
 Qui tibi materno quamvis a sanguine iunctus,
 Mente tamen, Phaëthon, propior fuit. Ille relicto,
 (Nam Ligurum populos et magnas rexerat urbes)
 Imperio ripas virides amnemque querelis
 Eridanum implerat silvamque sororibus auctam,
 Cum vox est tenuata viro, canaeque capillos
 Dissimulant plumae, collumque e pectore longum
 Porrigitur, digitosque ligat iunctura rubentes,
 Penna latus velat, tenet os sine acumine rostrum.
 Fit nova Cynus avis nec se caeloque Iovique
 Credit, ut iniuste missi memor ignis ab illo;
 Stagna petit patulosque lacus, ignemque perosus
 Quae colat, elegit contraria flumina flammis.

—Ov., *Met.* II, 367.

Namque ferunt luctu Cynum Phaethontis amati,
 Populeas inter frondes umbramque sororum
 Dum canit et maestum Musa solatur amorem,
 Canentem molli pluma duxisse senectam,
 Linquentem terras et sidera voce sequentem.

—VERG., *Aen.* X, 189.

Cf. Thomas (Stedman), *The Tears of the Poplars*.

Vid. Hyg., *Fab.* 144: Cygnus autem rex Liguria, qui fuit Phaethonti propinquus, dum deflet propinquum, in cygnum conversus est. Is quoque moriens flebile canit.

The story of Cynus, the son of Apollo and Hyrie, who was metamorphosed into a swan. His mother, from grief, became thereupon the lake of Hyrie:

Inde lacus Hyries videt et Cycneia tempe,
 Quae subitus celebravit olor. Nam Phyllius illic
 Imperio pueri volucresque ferumque leonem
 Tradiderat domitos; taurum quoque vincere iussus
 Vicerat, et, spreto totiens iratus amore
 Praemia poscenti taurum suprema negabat.
 Ille indignatus, 'cupies dare,' dixit, et alto
 Desiluit saxo. Cuncti cecidisse putabant:
 Factus olor niveis pendebat in aëre pennis.
 At genetrix Hyrie, servati nescia, flendo
 Delicuit stagnumque suo de nomine fecit.

—Ov., *Met.* VII, 371.

As some calm, still lake, whereon
Sinks the snowy-bosomed swan,
And the glistening water-rings
Circle round her moving wings.—WHITTIER.

For other associations for Apollo and the swan vid. *Lucr.* II, 503;
Anth. Lat. 691, 5; *Mart.* IX, 43, 1, with which cf. Whitman:

Where the neck of the long lived swan is curving and
winding.

The myth of Leda and the swan:

Qualis erat Leda, quam plumis aditus albis
Callidus in falsa lusit adulter ave.
—Ov., *Am.* I, 10, 3.

Dat mihi Leda Iovem cycno decepta parentem,
Quae falsam gremio credula fovit avem.
—Ov., *Her.* XVII, 55.

Non ego fluminei referam mendacia cycni
Nec querar in plumis delituisse Iovem.
—Ov., *Her.* VIII, 67.

Vid. also Ov., *Met.* VI, 109; *Her.* XVI, 249; *Am.* I, 3, 21; Verg.,
Cat. IX, 27; Sen., *Oct.* 204, 762; Manil., *Astron.* I, 337; Aet. 87; *Mart.*
IX, 104, 2; Stat., *Theb.* X, 503; Val. Flacc. I, 431; *Carm. Epig.* 345,
1549, 23; *Anth. Lat.* 59; 141; 199, 93; 808, 46, et al. vid. s. v. ANSER.

And a swan
(Sire, by the light of Heaven's twin orbs, mis-told.)
—BAILEY.

Two stately snow-white swans are seen,
Whose every motion bears the trace
Of that majestic haughty grace
Jove left the fabled bird which gave
Its form from Juno's wrath to save.—CLARKE.

Yon snow-white cloud that sails sublime in ether
Is but the sovereign Zeus, who like a swan
Flies to fair-ankled Leda.—LONGFELLOW.
(*The Masque of Pandora.*)

The antique poetic records of the swan as a bird of Venus occur in
the Latin poets only.

The goddess comes to stricken Adonis in a chariot drawn by swans:

Vecta levi curru medias Cytherea per auras
Cypron olorinis nondum pervenerat alis.
Agnovit longe gemitum morientis et albas
Flexit aves illuc. —Ov., *Met.* X, 717.

Venus borne by her swans with Amor as *auriga*:

Sic fata, levavit
Sidereos artus thalamique egressa superbum
Limen, Amyclaeos ad frena citavit olores,
Iungit Amor laetamque vehens per nubila matrem
Gemmato temone sedet. Iam Thybridis arces
Iliacae: pandit nitidos domus alta penates,
Claraque gaudentes plauserunt limia cycni.

—STAT., *Silv.* I, 2, 140.

Vid. also Hor., *Od.* III, 28, 14; Prop. IV, 3, 39; Ov., *Met.* X, 708; Stat., *Silv.* III, 4, 22; III, 4, 46; *Theb.* V, 63; Sil. Ital. VII, 440; *Anth. Lat.* 939, 2.

In silver traces fix'd unto her car,
Four snowy swans, proud of the imperial fair,
Wing'd lightly on, each in gay beauty dress'd,
Smooth'd the soft plumage that adorn'd her breast.
Sacred to her the lucent chariot drew,
Or whether wildly through the air she flew,
Or whether to the dreary shades of night,
Oppress'd with gloom she downward bent her flight,
Or proud aspiring sought the bless'd abodes,
And boldly shot among the assembled gods.

—GODFREY (Kettell).

Purer type the fabling mind
Grace to picture cannot find,
And when Art on canvas drew
Venus, born of ocean blue,
Yoked to chariot of the queen,
Swans, with arching neck, were seen.—HOSMER.

Beside them stood a chariot dazzling bright,
Yok'd with two beauteous swans of purest white.

—LUCRETIA DAVIDSON.

The song of swans as they return from their feeding grounds:

Ceu quondam nivei liquida inter nubilia cycni
Cum sese e pastu referunt et longa canoros
Dant per colla modos; sonat amnis et Asia longe
Pulsa palus. —VERG., *Aen.* VII, 699.

Drensare is the technical verb for the swan's song or note:

Grus gruit in gronnis, cygni prope flumina dresant.
—*Anth. Lat.* 762, 23.

The swan's song is contrasted with the trumpet's blare:

Nec simili penetrant aureis primordia forma,
Cum tuba depresso graviter sub murmure mugit
Et reboat raucum regio cita barbara bombum
Et validis cygni torrentibus ex Heliconis
Cum liquidam tollunt lugubri voce querelam.
—*LUCR. IV*, 544.

But, hark!—what sound—out of the dewy deep,
How like a far-off bugle's shrillest note
It sinks into the listening wilderness.
A Swan—I know her by the trumpet-tone.
(*To a Swan, flying by night* —*NOBLE* (*Duyckinck*).
on the Banks of the Huron.)

Never listened mortal ear
To voice more full and clear,
Not unlike in depth of tone
Blast of conch-shell loudly blown,
Or a far-off trumpet wail
Modulated by the gale.—*HOSMER*.

According to Mr. Shields, the cry of the Trumpeter Swan resembles the tones of the French horn.—*WHEELOCK: Birds of California*, s. v.

Seebohm, who studied its habits in Siberia, says the notes of the whooper resemble those of a bass trombone.—*KNOWLTON-RIDGWAY: Birds of the World*, p. 173.

Cf. And the owl across the twilight
Trumpets to his gloomy fellow.—*ROBERTS*.

A long, low bugle-note
From the white-throated sparrow of the woods
Begins to swell and float.—*MACE*.

The joyous spring song of migrant swans:

Patriis concentibus audis
Exultare gregem, quales, cum pallida cedit
Bruma, renidentem deducunt Strymona cygni.
—*STAT., Theb. VII*, 285.

Sailing on the wind to northward,
 Flying in great flocks, like arrows,
 Like huge arrows shot through heaven.
 Passed the swan, the Mahuahbezee,
 Speaking almost as a man speaks.—LONGFELLOW.

At last I saw her watch the swan
 Surge toward the north, surge on and on.—MILLER.

The short song of the swan excels that of migrating cranes:

Suavidicis potius quam multis versibus edam:
 Parvus ut est cycni melior canor, ille gruum quam
 Clamor in aetheriis dispersus nubibus austri.
 —LUCR. IV, 180.

In song the swan is surpassed by the nightingale:

Iudice me cycnus et garrula cedit hirundo,
 Cedat et inlustri psittacus ore tibi.
 —*Anth. Lat.* 658, 19.

Here silver swans with nightingales set spells,
 Which sweetly charm the traveller.
 (*Mrs. Anne Bradstreet and her Poems.*)
 —JOHN ROGERS.

The power of the muses:

O, testudinis aureae
 Dulcem quae strepitum, Pieri, temperas,
 O mutis quoque piscibus
 Donatura cycni, si libeat, sonum.
 —HOR., *Od.* IV, 3, 17.

For him, who sang like you his deathless songs,
 O swans Strymonian, chaunt some dolorous dirge
 Immortal and melodious as his own!—MIFFLIN.
 (*The Lament for Bion.*)

The death song of the swan:

Sic ubi fata vocant, udis abiectus in herbis
 Ad vada Maeandri concinit albus olor.
 —OV., *Her.* VII, 1.
 Reddidit icta suos pollice chorda sonos,
 Flebilibus veluti numeris canentia dura
 Traiectus penna tempora cantat olor.
 —OV., *Fast.* II, 108.

Penna is here an arrow. Cf. Gesner, op. cit., p. 360: *Moriturus flebilem cantum emittit, fixa prius in cerebro penna: quod miror Aristotelem ac Plinium vel ignorasse vel si sciverunt, non tradidisse.*
—PEROTTUS.

Dulcia defecta modulatur carmina lingua
Cantator cycnus funeris ipsi sui.

—MART. XIII, 77.

Vid. also int. al. Ov., *Met.* XIV, 430; Sen., *Hippol.* 301; *Agam.* 680; Mart. V, 37, 1; Stat., *Silv.* II, 4, 10; V, 3, 80; Stat., *Theb.* V, 341; Sil. Ital. XI, 438; Lact., *De Phoen.* 49; Plin. X, 32, 1.

Still would I believer be
In the tale they tell of thee—
Breathing in the hour of death
Music with thy latest breath;
Tuning, with a failing tongue,
Strains the sweetest ever sung.—HOSMER.

Then shall come singers
Singing no swan song.—LOWELL.

Ovid, like a swan, is singing his own death song:

Utque iacens ripa deflere Caystrius ales
Dicitur ore suam deficiente necem,
Sic ego, Sarmaticas longe proiectus in oras,
Efficio, tacitum ne mihi funus eat.

—OV., *Trist.* V, 1, 11.

Cf. Whittier, *The Swan Song of Parson Avery*.

How sweet the eloquence of dying men!
Hence poets feigned the music of the Swan,
When death upon her lays his icy hand,
She melts away in melancholy strains.

—THOMAS GODFREY (Duyckinck).

Nor Goethe sing with swan-like sweetness more.
(1832.)

—ROSWELL PARK.

Where some lost maid wide chaplets wreathes,
And, swan-like, there her own dirge breathes.

—SPRAGUE (Griswold.)

He is floating down, by himself to die;
Death darkens his eye, and unplumes his wings,
Yet his sweetest song is the last he sings.

—DOANE (Griswold).

The swan's last song is sweetest.—HALLECK.

The pale swan in her watery nest
Begins the sad dirge of her certain ending.—SHAKESPEARE.

Above, fly cranes, geese, ducks, herons and teals;
And swans, which take such pleasure as they fly,
They sing their hymns oft long before they die.
(*Connecticut River*.) —ROGER WOLCOTT.

DIOMEDEAE AVES. *Ardea*. Ἐρωδιός. Heron.

Exact species indeterminant, but this general identification seems most in harmony with the myth, the tradition and the natural characteristics alluded to by Ovid and Vergil.

For a full treatment, especially of the Greek sources, of the myth and legend, vid. Thompson, op. cit., p. 59. Holland, *Herovögel in der Griechischen Mythologie*. Heyne, *Excursus*; Verg., *Aen.* XI, 271.

The Latin prose versions are of interest:

Hae aves hodieque Latine Diomedae vocantur, Graeci eas Ἐρωδιός. Habitant autem in insula, quae est haud longe a Calabria, in conspectu Tarentinae civitatis. Quin etiam de his avibus dicitur quod Graecis navibus laetae occurrant, alienas vehementer fugiant, memores et originis suae et quod Diomedes ab Illyriis interemptus est.

—SERV. AD VERG., *Aen.* XI, 271.

Nam et Diomedem fecerunt deum (sc. Graeci), quem poena divinitus inrogata perhibent ad suos non revertissee; eiusque socios in volucres fuisse conversos non fabuloso poeticoque mendacio, sed historica attestatione confirmant; quibus nec deus ut putant factus humanam revocare naturam vel ipse potuit vel certe a Iove suo rege tamquam caelicola novicius impetravit. Quin etiam templum eius esse aiunt in insula Diomedea, non longe a monte Gargano, qui est in Apulia, et hoc templum circumvolare atque incolere has alites tam mirabili obsequio, ut aquam impleant et aspergant; et eo si Graeci venerint vel Graecorum stirpe prognati, non solum quietas esse, verum et insuper adulare; si autem alienigenas viderint, subvolare ad capita, tamque gravibus ictibus, ut etiam perimant, vulnerare. Nam duris et grandibus rostris satis ad haec proelia perhibentur armatae.

—S. AUG., *De civ. Dei* XVIII, 16.

Cf. also Plin. X, 44, 61; Isid. 12, 7, 28.

The metamorphosis of the comrades of Diomedes:

Numerusque ex agmine maior
Subvolat et remos plausis circumvolat alis.
Si volucrum quae sit subitarum forma, requiris,
Ut non cynorum, sic albis proxima cynis.
—OV., *Met.* XIV, 506.

Nunc etiam horribili visu portenta sequuntur,
 Et socii amissi petierunt aethera pennis
 Fluminibusque vagantur aves—heu dira meorum
 Supplicia!—et scopulos lacrimosis¹ vocibus implent.
 —VERG., *Aen.* XI, 271.

DROSCA. Song thrush. Vid. s. v. TURDUS.

EPOPS (UPUPA). Ἐπὺψ. Hoopoe.

Cf. Thompson, op. cit., p. 54; Newton, op. cit. s. v. Hoopoe.

Tereus metamorphosed into a hoopoe. A description of the bird in question:

Ille dolore suo poenaeque cupidine velox
 Vertitur in volucrem, cui stant in vertice cristae
 Prominet immodicum pro longa cupidine rostrum
 Nomen epops volucris, facies armata videtur.
 —Ov., *Met.* VI, 671.

For Tereus vid. Verg., *Ecl.* VI, 78; Aet. 585; Sen., *Thyest* 275; *Anth. Lat.* 199, 53; 808, 4; s. v. v. LUSCINIA, HIRUNDO, passim.

Cf. Verg., *Cul.* 253: Orbus epops maeret volucres evectus in auras.
 For the familiar pun on Upupa (Epops) vid. Plaut., *Capt.* 1004.

Cf. Go, borrow me a crow, a crow without feather.—SHAKESPEARE.

He knows a handsaw from a hawk whenever winds are southerly.
 —FIELD.

When these young hands first closed upon a goose:
 I have a scar upon my thimble finger.—HOLMES.

FICEDULA. Συκαλῖς. Figeater.

A name given indiscriminately to many small birds which in the autumn frequent gardens. Cf. Newton, op. cit. s. v. FIG-EATER.

Motacilla ficedula or *Silvia hortensis*.

Thompson (op. cit., p. 163) thinks that the Black-cap Warbler (*Silvia atricapilla*) satisfies the prose statements better than any other species yet suggested.

American parallel: Reed-bird, (bobolink).

¹Due to influence of metamorphosis association.

The 'reed-bird' of the Roman fable:

Cerea quae patulo lucet ficedula lumbo,
Cum tibi forte datur, si sapis, adde piper.
—MART. XIII, 5.

Cum me ficus alat, cum pascar dulcibus uvis,
Cur potius nomen non dedit uva mihi?
(*Ficedula*.) —MART. XIII, 49.

Nec melius de se cuiquam sperare propinquo
Concedet iuvenis, qui radere tubera terrae,
Boletum condire et eodem iure natantes
Mergere ficedulas didicit nebulone parente
Et cana monstrante gula. —JUV. XIV, 6.

Vid. also Plaut., *Capt.* 163; Lucil. 726; Baehrens, *P. L. M.* 529;
Petr. 33.

There the hunter stealthily lurks for the hare or the pheasant,
Or for the birds in the twigs at the great feast of the fruit.
(*Greek Idyl. In the Olives.*)—SNIDER.

FRINGILLUS. Σπίνος. Chaffinch(?).

Fringilla coelebs.

American parallels: Finch, indigo-bird, linnet.

The spring song of the *fringilli*:

Nunc sturnos inopes fringillorumque querelas
Audit, et arguto passere vernat ager.
—MART. IX, 55, 7.

Σπίνος, Arat. 1024, is translated by Avienus with *fringilla*, in a passage where the morning song of the bird is said to be prophetic of approaching storms. *Querelas* above is an echo of the traditional Roman attitude toward the song of birds. Here it is notably false according to modern feeling, if the equation *Fringillus* = chaffinch is true. Cf. Hudson, op. cit., p. 135: "It is a loud song and a joyous sound; 'Gay as a chaffinch,' is a proverbial saying of the French."

And early linnets hail the purple spring.—R. T. PAINE.

The yellow finches perched and sang
Their few notes sweet and loud.—HIGGINSON.

FULICA. Φαλαρίς. Coot(?).

Fulica atra. Exact identification impossible.

American parallel: Coot, 'mud-hen,' 'marsh-hen.'

As the marsh-hen secretly builds on the watery sod,
Behold, I will build me a nest on the greatness of God.

—LANIER.

The wanton coot the water skims.—BURNS.

I come from haunts of coot and hern.—TENNYSON.

The mud-hen's whistle from the marsh at morn.—LAMPMAN.

The *fulix* (*fulica*) portends the coming of a storm:

Canā fulix itidem fugiens e gurgite ponti
Nuntiat horribilis clamans instare procellas
Haud modicos tremulo fundens gutture cantus.

—CIC., *Prog.* 183.

Cicero has confused the *fulix* with the ἐρωδιός (heron) of Aratus. The epithet *cana* (if *fulix* = coot) is hardly possible, and the habits described seem best to fall in with the traditional treatment of the heron, vid. s. v. ARDEA.

Iam sibi tum curvis male temperat unda carinis
Cum medio celeres revolant ex aequore mergi
Clamoremque ferunt ad litora, cumque marinae
In sicco ludunt fulicae notasque paludes
Deserit atque altam supra volat ardea nubem.

—VERG., *Geor.* I, 360.

In Vergil there is another confusion. *Fulica* is here applied to the αἰθυα of Aratus, which according to Plin. X, 91, is the *mergus*. The latter was also a foreteller of storms. Cf. Plin. XVIII, 362. Vid. also Luc. V, 555; *Anth. Lat.* 772, 37.

The haunts of the *fulicae*:

Haud procul hinc stagnum est, tellus habitalis olim,
Nunc celebres mergis fulicisque palustribus undae.

—OV., *Met.* VIII, 624.

The black ducks gather, with plumes so rich,
And the coots in twinkling lines.—CELIA THAXTER.

The verges and islets of the lagoon were elegantly embellished with flowering plants and shrubs; the laughing coots with wings half spread were tripping over little coves, and hiding themselves in the tufts of grass.—JOHN BARTRAM.

GALBULUS. Ἰκτερός. Golden Oriole(?).

Oriolus galbulus.

The Oriole (Baltimore and Orchard) is a favorite bird in all the American poets. The bobolink on its fall migration, when known as the 'reed-bird,' is a parallel to the unique reference below:

Alexander Wilson: *The Baltimore Bird.*

Field: *The Fire-Hangbird's Nest.*

Emily Dickinson: *The Oriole's Secret.*

Arlo Bates: *The Oriole.*

Chadwick: *The Golden-Robin's Nest.*

Maurice Thompson: *Spring's Torch-bearer.*

A golden oriole with midnight wings
Dreamed in the city's topmost elm and sang
Of endless summer and undying fog.—LAMPMAN.

'Twixt cypresses and slim palmetto trees,
Like to the golden oriole's hanging nest,
Her airy hammock swings.—EMMA LAZARUS.

Gay Columbine, orioles are chanting
Your trumpet-note, loud on the gale.—LARCOM.

And there within the emerald twilight, which
Defied the mid-day sun, from bough to bough
A torch of downy flame—the oriole
Passed to his nest, to feed the censer-fires
Which Love had lit for Airs of Heaven to swing.
—HOLLAND.

I never thought that Jason sought
For any golden fleece;
But then I am a rural man,
With thoughts that make for peace.

But if there were a Jason,
Tradition suffer me
Behold his lost emolument
Upon the apple tree.
(*The Oriole.*) —EMILY DICKINSON.

The bird that wears the bright attire,
The down of fire-grained Nesseean woof,
Burned like a phoenix on her pyre.—WRIGHT.

The *galbulus* (lemma) or *galbina ales* (text), is caught with reeds and nets, while the grapes are yet unripe:

Galbina decipitur calamis et retibus ales,
 Turget adhuc viridi cum rudis uva mero.
 (*Galbulus*.) —MART. XIII, 68.

Cf. Plin. XXX, 94. Avis icterus vocatur a colore, hanc puto Latine vocari *galgulum* (Sillig, Detlefsen), *galbulum* (Jan.).

GALLINULA. Πορφυρίων. Purple gallinule(?).

Porphyrio hyacinthus.

The purple gallinule, a rare straggler in the Northern States, is a parallel.

And rasping notes of joy were heard
 From gallinule and crying-bird.—MAURICE THOMPSON.

A sign of approaching storm:

Pectora cum curvo gallinula rostro.
 —AVIEN, 1713.

Curvo seems to point to some other bird, possibly the curlew.

The call of the curlew in the American poets:

And heard afar the curlew call.—WHITTIER.

That was a curlew calling overhead,
 That fine, clear whistle shaken from the clouds.
 See! hovering o'er the swamp with wings outspread,
 He sinks.—CELIA THAXTER.

GRACULUS. Κολοιός. Jackdaw.

Corvus monedula. Vid. s. v. v. CORNICULA, MONEDULA.

American literary parallels: Black-bird, bronzed grackle, jay.

The *graculus* as a weather prophet:

Vivit edax vultur ducensque per aera gyros
 Milvus et pluviae graculus auctor aquae.
 —OV., *Am.* II, 6, 33.

Note the following American birds which foretell the coming of rain:

And long-bill'd snipe that knows approaching rain.
 —ALEXANDER WILSON.

When in his slender treble, far and clear,
 Reiterates the rain-bird (the cuckoo) his complaint.
 —ROBERTS.

The blackcaps pipe among the reeds,
And there'll be rain to follow.—TROUBETSKOY (Stedman).

For days before, the wild dove cooed for rain.
—BAYARD TAYLOR.

Still, still I hear the robins sing
With raindrops in their throats.—HIGGINSON.

The hills, orange-misted and blue,
Are touched with the voice of the rain-bird
Unsuited and new.—CARMAN-HOVEY.

The *graculus* as a basis for a comparison in color:

Quaedam me cupit—invide—, Procille!
Loto candidior puella cycno,
Argento, nive, lilio, ligustro.
Iam suspendia saeva cogitabis.
Sed quandam volo nocte nigriorem,
Formica, pice, graculo, cicada,
Si novi bene te, Procille, vives.

—MART. I, 115, 1.

For the thieving *graculus* and statue of Priapus, *Priap.* LXI, 10,
vid. s. v. CORNIX.

The Fable of the Graculus, who donned the plumage of a Peacock:

Tumens inani graculus superbia.
Pennas, pavoni quae deciderant, sustulit,
Seque exornavit: deinde contemnens suos
Formoso se pavonum immiscuit gregi.
Illi impudenti pennas eripuit avi,
Fugantque rostris. Male mulcatus graculus
Redire maerens coepit ad proprium genus.
A quo repulsus tristem sustinuit notam.
Tum quidam ex illis, quos prius despexerat:
Contentus nostris si fuisses sedibus,
Et, quod natura dederat, voluisses pati,
Nec illam expertus esses contumeliam,
Nec hanc repulsam tua sentiret calamitas.

—PHAED. I, 3.

Cf. Hor., *Epist.* I, 3, 14, s. v. CORNICULA.

Carryl: *The patrician Peacocks and the overweening Jay.*

The note of the *graculus*:

Dum clangunt aquilae, vultur pulpares probatur,
Et crocitat corvus, fringulit et graculus.

—*Anth. Lat.* 762, 27.

And the jay in the woods never studied the gamut, yet trills
pretty well to me.—WHITMAN.

The grackles bicker in the alder-boughs.—ROBERTS.

Here a grackle chirping low.—MAURICE THOMPSON.

And the querulous, leering jay
How he clamours for a fray.—MAURICE THOMPSON.

Mr. Bluejay, full of sass.—RILEY.

Sounds the musical jargon of bluejay and grackle.
—TROWBRIDGE.

GRUS. Γέρανος. Crane.

Ardea grus. *Grus cinerea.*

American literary parallels: Sand-hill crane, whooping crane.

Garland: *The Herald Crane.*

Lazarus: *The Cranes of Ibycus.*

Cranes in high flight to sheltering valleys announce the coming of
rain. Vid. s. v. ARDEA.

Numquam imprudentibus imber
Obfuit: aut illum surgentem vallibus imis
Aëriæ fugere grues.—VERG., *Geor.* I, 373.

Vid. also Avien. 1746, 1768, 1799.

Cf. *Anth. Lat.* 772, 45: Vallibus effugit hinc grus.

Cf. Then a white pair of herons trailing,
Flapped inland.—LOWELL.

And his vessels, like a troop
Of cranes in file, had spread their wings for home.
—STEDMAN.

Floating upward from the green
Young willow wands, with sunny sheen
On pearly breast, and wings outspread,
A white crane journeys overhead.—STEIN.

The winter hunting of a Roman husbandman:

Tum gruibus pedicas et retia ponere cervis,
Auritosque sequi lepores: tum figere dammas,
Stuppea torquentem Balearis verbera fundæ,
Cum nix alta iacet, glaciem cum flumina trudunt.
—VERG., *Geor.* I, 307.

At cum tonantis annus hibernus Iovis
 Imbres nivesque comparat,
 Aut trudit acres hinc et hinc multa cane
 Apros in obstantes plagas,
 Aut amite levi rara tendit retia,
 Turdis edacibus dolos,
 Pavidumque leporem et advenam laqueo gruem
 Lucunda captat praemia.—HOR., *Epod.* II, 29.

With subtle arts, his traps, and nets,
 To catch the tender thrush, he sets;
 Lays for the crane, some stouter snare,
 Or takes, delicious treat! the hare.—DOANE (Duyckinck).
 (*From the Latin of Horace.*)

Cf. And the *exiled* bird of some far-off shore,
 As she plumes her drooping wing.—POLLOCK.

Cf. At quem caeruleus nodo constringit amictus
 Quique paludicolam prendere gaudet avem.
 (*Februarius.*) —*Anth. Lat.* 395, 5.

Ah miseri! Quos nosse iuvat, quid Phasidis ales
 Distet ab hiberna Rhodopes grue.
 —STAT., *Silv.* IV, 6, 8.

And small wild-hens in reed-snares caught
 From the banks of Sondagardee brought.—WHITTIER.

Or potting the crane in the rushes.—STEAD.

Two methods of capturing cranes:

Grues cum aliis modis, tum ita capiuntur. Cucurbita sicca et decollata excavatur, visco intus illinitur, iniicitur scarabaeus, qui exitum quaerens immurmurabit, eo sonitu excitata grus accurret, et capite inserto, captoque scarabaeo, ipsum etiam cucurbitae vas oculis, capitique agglutinabit, ut eo pennis haerente iam neque visu neque progressu uti valeat, sed uno in loco consistat, donec ab aucupe manibus capiatur. Se desit scarabaeus, cepae folium iniecisce in alvum cucurbitae sat fuerit.

Laqueis etiam facile capietur, si quis arundinem sectam utrinque perforet, et exiles festucas imponat, ac per foratum lapidem ab arundine suspendat, in media autem arundine ferreum acum figat, et fabam ei inserat, quam grus respiciens laqueo caput insinuet. Hac arrepta, iam retractura caput, collum illaqueatum sentiet: perceptoque dolo, sursum evolare nitetur: sed lapidis pondus obsistet, donec ab accurrente aucupe comprehendatur.—(OPP., *De Aucupio.*) GESNER, op. cit., p. 513.

The manner of cooking and serving the crane :

Deinde secuti
Mazonomo pueri magno discerpta ferentes
Membra gruīs sparsi sale multo, non sine farre.
—HOR., *Sat.* II, 8, 86.

Their flesh is said to be well tasted, nowise savoring of fish.—ALEXANDER WILSON, *op. cit.*, s. v. Whooping Crane.

This is not a *gou̇ter* with friend Bourgeat on the Flat Lake, roasting the orange-fleshed Ibis, and a few sun-perch.—AUDUBON, *Journal*, vol. I. p. 162.

Cf. s. v. CICONIA. The crane became more fashionable fifty years later.

A picture of earlier simplicity :

Nec Latium norat [attagen], quam præbet Ionia dives,
Nec, quæ Pygmaeo sanguine gaudet, avem.
—OV., *Fast.* VI, 175.

The hurtling of weapons and the cries of battle are likened to the noisy flight of cranes :

Clamore ad sidera tollunt
Dardanidæ e muris; spes addita suscitât iras;
Tela manu iaciunt; quales sub nubibus atris
Strymoniaë dant signa grues, atque æthera tranant
Cum sonitu, fugiuntque Notos clamore secundo.
—VERG., *Aen.* X, 263.

Vergil is probably thinking of the northward migration of the cranes.

In *Lucr.* IV, 181, the flight call of the crane is compared, to its disadvantage, with the shorter song of the swan.

While passing crane, with slender neck outstretched,
Of that wild band will be the trumpeter.—HOSMER.

They crossed the desert's burning line,
And heard the palm-trees' rustling fan,
The Nile-birds' cry, the low of kine,
And voice of man.—WHITTIER.

A whooping crane erects his skeleton form,
And shrieks in flight.—SIMMS.

The clamorous cranes go singing through the night.
—LONGFELLOW.

The stork, the heron and the crane through the clear realms
of azure drift.—LONGFELLOW.

The joyous spring migration of cranes and swans:

Tellus iam pulvere primo
Crescit, et armorum transmittunt fulgura silvae.
Qualia trans pontum Phariis defensa serenis
Rauca Paraetionio decedunt agmina Nilo,
Cum fera ponit hiemps: illae clangore fugaci,
Umbra fretis arvisque volant, sonat avius aether,
Iam Borean imbresque pati, iam nare solutis
Amnibus et nudo iuvat aestivare sub Haemo.

—STAT., *Theb.* V, 9.

The fall migration of cranes to Egypt, with some description of their
flight:

Strymona sic gelidum, bruma pellente, relinquunt
Poturae te, Nile, grues primoque volatu
Effingunt varias, casu monstrante, figuras;
Mox ubi percussit tensas Notus altior alas,
Confusos temere immixtae glomerantur in orbes,
Et turbata perit dispersis littera pennis.

—LUC. V, 711.

Faint from the upper air is heard the weird cry of the
blue-crane,
That sad and plaintive refrain, a warning of winter's
privations.

—MCKEEVER.

And through the misty air
Passed like the mournful cry
Of sunward sailing cranes.—LONGFELLOW.

The same, with a picture of the joy felt by the cranes at their arrival:

Ceu patrio super alta grues Aquilone fugatae
Cum videre Pharon, tunc aethera latius implent,
Tunc hilari clangore sonant; iuvat orbe sereno
Contempsisse nives et frigora solvere Nilo.

—STAT., *Theb.* XII, 515.

Above is the blue sky,
Empty, save for the sudden crane-flight, with
Its *clangor*, from the marshes and the sea.—COX.

As when some grey November morn the files,
In marching order spread, of long-necked cranes.
—MATTHEW ARNOLD.

And the crane flies back over sea.—ROBERTS.

The same, with allusions to the Pygmies and the letters formed by the cranes in their flight:

Pendula ceu parvis moturae bella colonis
Ingenti clamore grues aestiva relinquunt
Thracia, cum tepido permutant Strymona Nilo:
Ordinibus variis per nubila textitur ales
Littera, pennarumque notis inscribitur aer.

—CLAUD., *De Bell. Gild.* 474.

A reference on a web, woven by Minerva, to the myth of Gerana, who was metamorphosed, through envy, by Juno into a crane (γέρανος) and condemned to eternal warfare with her own people, the Pygmies.

Altera Pygmaeae fatum miserabile matris
Pars habet; hanc Iuno victam certamine iussit
Esse gruem, populisque suis indicare bellum.

—OV., *Met.* VI, 90.

A description of a Pygmaean battle with comments:

Ad subitas Thracum volucres nubemque sonoram
Pygmaeus parvis currit bellator in armis,
Mox inpar hosti raptusque per aera curvis
Unguibus a saeva fertur grue. Si videas hoc
Gentibus in nostris, risu quatiare: sed illic,
Quamquam eadem adsidue spectentur proelia, ridet
Nemo, ubi tota cohors pede non est altior uno.

—JUV. XIII, 167.

For an opinion on the credibility of this myth, cf. *Namat.* I, 291. Cosa by tradition had been abandoned because of mice. *Namatianus* ridicules the story and adds:

Credere maluerim Pygmaeae damna cohortis,
Et coniuratas in sua bella grues.

Other references to the myth:

Pygmaeo brevior gruem timente.

—*Priap.* 46, 3.

Anguibus Alcides et caesa languidus hydra
Non chortes timuit, grus homicida, tuas.

—*Anth. Lat.* 931, 133.

Extas longis Pygmaeus in armis,
Ne te deprensum grus peregrina voret.

(*De Bumbulo.*)

—*Anth. Lat.* 190.

Cranes in flight form the letter "V," which suggests *ver* and the Greek *ῥαο*, hence these verses in praise of Earinus:

Nomen habes, teneri quod tempora nuncupat anni,
Cum breve Cecropiae ver populantur apes:

Quod penna scribente grues ad sidera tollant.
—MART. IX, 13.

Cf. Cic., *De D. N.* II, 49: Grues, cum loca calidiora petentes maria transmittunt, trianguli efficere formam.

Cf. On which the wild-geese ink themselves, a far triangled train.
—CAWEIN.

Day after day, the flying flocks go south,
In living lines, which write along the sky
The prophecy of winter's sure approach.—READ.

Angles of water-fowl winnowed the purple sky,
Clanging their trumpet-notes
As if from brazen throats.—MAURICE THOMPSON.

Ah! say you so, bold sailor
In the sunlit deeps of sky!
Doest thou so soon the seed-time tell?—GARLAND.

Hoarse trumpeters are in the sky,
From which a dripping rain is shed—
Onward in wedge-like form they fly,
By leader piloted.
A flourish of the feathered band
Announces that they seek a land
Of sunniness and flowers—
Blue waters, edged by golden sand,
Flashing through tropic bowers.—HOSMER.
(*November.*)

Other references to the flight of cranes, which are also called the birds of Palamedes:

Turbabis versus nec littera tota volabit,
Unam perdidideris si Palamedis avem.
—MART. XIII, 75.

Ausonius compares a crane in flight to the letter Φ . Cf. Lucil., Baehrens, *P. L. M.*, 137.

Haec gruis effigies Palamedica porrigitur Φ .
(*De litteris.*) —Aus., *Idyll.* XII, 25.

Littera sum caeli pinna perscripta volanti,
 Bella cruenta gerens volucris discrimine Martis.
 Nec vereor pugnās, dum non sit longior hostis.
 —*Anth. Lat.* 286, XXVI.

E come i gru van cantando lor lai
 Facendo in aer di se lunga riga.—DANTE, *Inf.* V, 46.

The crane-flock leaves no trace of passage there.
 —WHITTIER.

How cranes avenged the death of Ibycus:

Ibycus ut periit, vindex fuit altivolans grus.
 (*De historiis.*) —*Aus., Idyll.* XII, 12.

[Ibyci grues, Graecis in proverbiam abierunt, quod dici consuevit, quotiens sceleribus novo quodam et improvise casu proditis, scelesti poenas dant eis quos laeserunt. Id ex huiusmodi quodam eventu natum memorant.] Ibycus, poeta quidam, cum in latrones incidisset iam occidendus, grues forte supervolantes obtestatus est. Aliquando post tempore cum eidem latrones in foro sederunt, rursusque grues supervolarent, per iocum inter se susurrabant in aurem: adsunt Ibyci ultores. Eum sermonem assidentes in suspicionem rapuerunt, maxime desiderato iampridem Ibyco. Rogati quidnam sibi vellet ea oratio, haesitanter atque inconstanter responderunt. Subiecti tormentis facinus confessi sunt, atque ita velut gruum indicio poenas Ibyco dederunt, aut potius suo ipsorum indicio, ut dicitur, perierunt.

—PLUT., *De Garrul.* GESNER, op. cit., p. 520.

Cf. Stat., *Silv.* V. 3, 153: Volucrumque precator Ibycus. Vid. Suid. s. v. Ἰβυκος. Welcher, *Die Kraniche des Ibykos.* *Rh. Mus.* I, p. 401.

Call to him herons as slowly you pass.—LONGFELLOW.

Or Hermes who interpreted
 What the sage cranes of Nilus said.—WHITTIER.

The Fable of the Wolf and the Crane:

Os devoratum fauce cum haereret lupi,
 Magno dolore victus coepit singulos
 Inlicere pretio, ut illud extraherent malum.
 Tandem persuasa est iureiurando gruis,
 Gulaeque credens colli longitudinem
 Periculosam fecit medicinam lupo.
 Pro quo cum pactum flagitaret praemium,
 'Ingrata es,' inquit, 'ore quae nostro caput,
 Incolume abstuleris et mercedem postules.'
 —PHAED. I, VIII, 4.

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 Coepere et gracili mentum producere rostro.
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—*Ciris*, 497.

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The human side of bird life, due to the metamorphosis idea, is, on the other hand, reflected in the following line from *Namat*. II, 54:

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A moment on the billow, shriek and rise
With loaded talons, wheeling to the skies.—NEAL.

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Good times, fair weather, warmth and plenty.
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(*The Fisherman's Hymn.*)—ALEXANDER WILSON.

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In the swallow we have another of the four great song-birds of the ancients. The domestic habits of the bird, its early appearance as a harbinger of spring, and the fact that a great metamorphosis myth was early attached to it, account in great part for its antique preeminence.

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The use of *hirundo* and *passer*:

All this you will probe to the pith.—CARMAN-HOVEY.

In the swallow we have another of the four great song-birds of the ancients. The domestic habits of the bird, its early appearance as a harbinger of spring, and the fact that a great metamorphosis myth was early attached to it, account in great part for its antique preeminence.

He is the constant destroyer of insects—the friend of man; and, with the stork and ibis, may be regarded as a sacred bird.—SIR HUMPHREY DAVY.

Beyond all others the swallow is the bird of spring:

Ver blandum viget arvis, et adest hospes hirundo.
—VARR., *Sat. Men.* 579.

Horace will visit Maecenas when the warm winds come and the first swallow appears:

Te, dulcis amice, reviset
Cum Zephyris, si concedes, et hirundine prima.
—HOR., *Epist.* I, 7, 12.

A description of the charms of spring. The swallow and her nest:

Omnia tunc florent; tunc est nova temporis aetas,
Et nova de gravido palmite gemma tumet,
Et modo formatis operitur frondibus arbor,
Prodit et in summum seminis herba solum,
Et tepidum volucres concentibus aera mulcent,
Ludit et in pratis luxuriatque pecus.
Tum blandi soles, ignotaque prodit hirundo
Et luteum celsa sub trabe figit opus.
—OV., *Fast.* I, 151.

The restless swallow building in the eaves.—LONGFELLOW.

Yes, it was a swallow's nest,
Built of clay and hair of horses.—LONGFELLOW.

The swallows, startled from their nests
By pain's discordant sound,
Among the rafters bare and brown
Went circling round and round.—SIGOURNEY.

The swallow dips beneath the eaves,
And flirts his plumes and folds his wings.—RILEY.

Where sang the noisy masons of the eaves.—READ.

Swingeth the swallow to his old home under
The unforgotten eaves.—TICHNOR.

The swallow at times returns too early in the spring. Cf. Swinburne,
Had I wist.

Fallimur, an veris praeunntia venit hirundo
Nec metuit, ne qua versa recurrat hiemps?
Saepe tamen, Progne, nimium properasse quereris,
Virque tuo Tereus frigore laetus erit.
—OV., *Fast.* II, 853.

Cf. *Anth. Lat.* 235, 17. *De Adventu Veris.*

Nota tigilla linit iam garrula voce chelidon:
Dum recolit nidos, nota tigilla linit.

Varr., *Sat. Men.* 526. Ut hirundines culmis oblitis luto tegulas fingeant.

Cf. Mart. XI, 18, 19, where *seges* is given as a material in the swallow's nest.

The black swift swallow gathers moss
And builds in peace above his head.—MILLER.

When low about her clay-built nest.—ALICE CARY.

The swallow comes with its bit of clay,
When the busy Spring is here,
And twittering bears the moistened gift
A nest on the eaves to rear.

—OAKES-SMITH (Griswold).

In the Autumn, when the hollows
All are filled with flying leaves,
And the colonies of swallows
Long have quit the stuccoed eaves.—TROWBRIDGE.

I envy nests of *sparrows*¹
That dot His distant eaves.

—EMILY DICKINSON.

For the traditional reason of the Progne's grief, cf. Ov., *Trist.* V, 1, 60, s. v. *ALCEDO*.

A folk-lore date:

Vere novo, cum iam tinnire volucres
Incipient nidosque reversa lutabit hirundo,
Protinus hiberno pecus omne movebis ovili.

—CALP. V, 16.

Plastering our swallow nests on the awful cast.

—LOWELL.

¹The ornithologist would emend the text to 'swallows.' Indeed the ms. may show this reading. Miss Dickinson, however, never mentions the swallows either in her poems or her letters, while the sparrows of her garden were favorite birds. Here, I venture to believe, she had in mind the biblical references to the latter bird. Cf. *Letters*, vol. I, p. 227.

The same. Another folk-lore date:

Post ubi Riphææ torpentia frigora brumæ
Candidus aprica Zephyrus regelaverit aura
Sidereoque polo cedit Lyra mersa profundo,
Veris et adventum nidis cantabit hirundo.

—COLUM. X, 77.

Warble me now the joy of lilac time,
Bluebird and darling swallow.—WHITMAN.

The swallow and nightingale return in March:

Tempus vernum aedus petulans et garrula hirundo
Indicat et sinus lactis et herba vivens.
(*Martius*.) —*Anth. Lat.* 395.

Cf. Colum. XI, 2, 22. Sid., *Ep.* II, 14, 2, s. v. CICONIA.

The martins, white-breasted swallows, came promptly the first day of April.

Yesterday [May 2nd] appeared the barn swallows.—CELIA THAXTER (*Letters*, pp. 175-176).

For another reference to the nest of the swallow cf. Plaut., *Rud.* 598.

Juturna in her wild flight with Turnus is likened to a swallow, flitting about the atrium of a Roman villa:

Nigra velut magnas cum divitis aedes
Pervolat et pennis alta atria lustrat hirundo,
Pabula parva legens nidisque loquacibus escas;
Et nunc porticibus vacuis, nunc umida circum
Stagna sonat. —VERG., *Aen.* XII, 473.

By homesteads old, with wide-flung barns
Swept through and through by swallows.—WHITTIER.

Of swallows flying in and out.—ALICE CARY.

He like some swallow
O'er a lake the morning smites.—CAWEIN.

Like a swallow that stoops to lave
Its burnished bosom in the wave,
Just tipping with its airy breast
The enamoured billows eager crest.—READ.

Yet as the unharm'd swallow skims his way,
And lightly drops his pinions in thy spray.
(*Connecticut River*.) —BRAINARD (*Kettell*).

While flocks of swallows o'er the surface throng,
Just dip the wing, and twittering, skim along.—ALSOP.

As the gentle dip of the swallow's wing
Breaks the bubbles of the sea.—HALLECK.

While our bark-canoes the river
Skim like swallows on the wing.—MORRIS.

The swallow went down where the dew-drops were clinging,
And sipped from the grass, as she skimmed o'er the vale.
—GOULD.

Along the surface of the winding stream,
Pursuing every turn, gay swallows skim;
Or around the borders of the spacious lawn
Fly in repeated circles, rising o'er
Hillock and fence, with motion serpentine,
Easy and light. One snatches from the ground
A downy feather, and then upward springs,
Followed by others, but oft drops it soon,
In playful mood, or from too slight a hold,
When all at once dart at the falling prize.—WILCOX.

I come, but as the swallow dips
Just touching with her feather tips
The shining wave below.—HOLMES.

Though its bliss on my lips were fleet
Than a swallow's dip to the stream.—LOWELL.

Homeward shoots the arrowy swallow.—LONGFELLOW.

And down like swallows that dip to the sea.—MILLER.

The silent swallow swoops, a flash
Of light, and leaves, with dainty plash,
A ring of ripples, in her wake.—AVERILL.

Across the river's shadow-haunted floor,
The paths of skimming swallows interlace.—LAMPMAN.

At the silent eventide,
When the flocking swallows glide,
Lazily, mazily glide and swim
Through the warm air waxing dim.—POLLOCK.

A morning scene at a swallow's nest:

*Incipit ardentis Phoebus producere flammas,
Spargier et rubicunda dies: iam tristis hirundo
Argutis reductura cibos immittere nidis
Incipit et molli partitos ore ministrat.*

—JUL. MONTANUS, *Baehrens, P. L. M.*, p. 355.

Cf. *Maestaque sub tecto sua murmure acta chelidon.*

—*Anth. Lat.* 199, 55.

Cf. also Verg., *Aen.* VIII, 455, where the swallow too was in the poet's mind:

Evandrum ex humili tecto lux suscitata alma
Et matutini volucrum sub culmine cantus.

The hill-born rustick, hale and gay,
Ere prattling swallows sally,
Or ere the pine-top spies the day,
Sings cheerly through his valley.—R. T. PAINE.
(*Green Mountain Farmer.*)

And sorrow in the twitter of the swallows round the shed.
—RILEY.

From their nest beneath the rafters sang the swallows wild
and high.—LONGFELLOW.

And how the swallows' liquid notes
Are in the eaves at dawn.—HIGGINSON.

And, singing with the early birds, her daily task begins.
—WHITTIER.

The swallows, twittering from the tower,
Salute the rosy morn.—SARAH HELEN WHITMAN.

In a simile, reference is made to the fasting mother bird feeding her eager young:

Ipse ad conspectum cenae diducere rictum
Suetus hiat tantum ceu pullus hirundinis, ad quem
Ore volat pleno, mater ieiuna.

—JUV. X, 230.

Ovid dreads the land of the Getae as much as swallows do the coming of winter. Fall migration:

Gramina cultus ager, frigus minus odit hirundo,
Proxima Marticolis quam loca Naso Getis.

—OV., *Ex Pont.* IV, 14, 13.

In autumn, ere the waters freeze,
The swallows fly across the seas.—CHRISTINA G. ROSSETTI.

And millions of warblers, that charmed us before,
Have fled in the train of the sun-seeking swallows.
—ALEXANDER WILSON.

Smiling at the airy ease
Of southward flying swallow.—CARLTON.

For a discussion of the supposed hibernation of birds vid. Note III,
HIBERNATION.

The story of the swallow that stayed behind:

Hibernos peterent solito cum more recessus
Atthides, in nidis una remansit avis.
Deprendere nefas ad tempora verna reversae
Et profugam volucres diripuerunt suae.
Sero dedit poenas: discerpi noxia mater
Debuerat, sed tunc cum laceravit Ityn.
—MART. V, 67.

These are the days when birds come back,
A very few, a bird or two,
To take a backward look.—EMILY DICKINSON.
(*Indian Summer.*)

In the gray of the hollow
Still lingers the swallow.
(*An Open Winter.*) —MATTHEWS.

For the swallow as a weather prophet vid. Verg., *Geor.*, I, 377; P.
Ter. Varr. Atac., Baehrens, *P. L. M.*, p. 336; *Anth. Lat.* 772, 46;
Avien. 1701.

Cf. Swallow that skims the gale.—CRANDALL.

The big drops scatter from the leaves,
And the wet swallow wheeling past,
Sails home to brood beneath the eaves.—GOODWIN.

The swallows alone take the storm on their wing,
And, taunting the tree-sheltered labourers, sing.—READ.

The myth of the Χελιδνία (Plin. XI, 79, XXXVII, 56), the 'swallow-stone' as a cure for blindness, does not occur in the Latin poets. But cf. Longfellow, *Evangeline*.

Seeking with eager eyes that wondrous stone, which the
swallow
Brings from the shore of the sea to restore the sight of its
fledglings.
Lucky was he who found that stone in the nest of the
swallow.

See Preface for a brief discussion of the above.

For the myth of Tereus, Philomela and Progne vid. s. v. LUSCINIA,
Note IV, RUSCINIA.

Say now, thou twit'ring swallow, say,
How shall I punish thee? Which way?
Say, shall I rather clip thy wing,
Or tongue, that thou no more mayst sing?
As cruel Tereus once is said
T'have done, while yet thou wert a maid.
(*To a Swallow.*) —FRENCH (Duyckinck).

The swallow is an enemy of bees, which they feed to their young.

Absint et picti squalentia terga lacerti,
Pinguibus a stabulis, meropesque aliaeque volucres,
Et manibus Progne pectus signata cruentis;
Omnia nam late vastant ipsasque volantis
Ore ferunt dulcem nidis immitibus escam.
—VERG., *Geor.* IV, 13.

The swallow, morderer of the beës small.—CHAUCER.

Cf. Did wasps or king-birds bring dismay.
(*Honey Bee.*) —FRENEAU.

For her repast he bears along the lea
The bloated gad-fly and the balmy bee.
(*The King-bird.*) —ALEXANDER WILSON.

Color of the swallow's breast:

Altera [Progne] tecta subit, neque adhuc de pectore caedis
Excessere notae, signataque sanguine pluma est.
—OV., *Met.* VI, 669.

Altera dira parens haec est, quam cernis, hirundo;
Adspice, signatum sanguine pectus habet.
—OV., *A. A.* II, 383.

The myth of Progne as material for tragedy:

Grande locuturi nebulas Helicone legunto
Si quibus aut Prognēs, aut si quibus olla Thyestae
Fervebit, saepe insulso coenanda Glyconi.
—PERS. V, 7.

Credamus tragicis, quidquid de Colchide torva
Dicitur et Progne. —JUV. VI, 644.

(Cf. also Juv. VII, 12 and 92.)

Ne pueros coram populo Medea trucidet,
 Aut humana palam coquat exta nefarius Atreus,
 Aut in avem Progne vertatur, Cadmus in anguem.
 —HOR., *A. P.* 185.

The Fable of the Birds and the Swallow and why the latter frequents the abodes of men:

Aves in unum cum devenissent locum,
 Viderunt hominem seminantem linum agro.
 Quod ut pro nihilo habere hirundo intellegit,
 Sic convocatas allocuta traditur:
 Hinc nobis instat omnibus periculum,
 Si semen ad maturitatem venerit.
 Aves risere. Deinde, ut fruticavit seges,
 Hirundo rursus: "Instat perniciēs," ait,
 "Adeste, germen eruamus noxium,
 Ne, si mox crescat, inde fiant retia,
 Et nos possimus artibus humanis capi."
 Ridere pergunt verba aves hirundinis
 Consilium et spernunt stulte prudentissimum.
 At illa cauta ad homines se mox contulit,
 Sub eorum tectis tuta posthac ut foret.
 Sed, quae salubre monitum respuerant aves,
 De lino factis captae pereunt retibus.

—*Aes. Fab.* XII.

Why farmers love the swallow:

The winter-fearless crow, and all the tribe
 Of termagant jays, and epauletted starlings,
 That over-shriek your head in hot mid-summer,
 Are nought to me; the drab-dressed wren may seek
 Some other cornice than mine, and singing robins,
 That gabble loudly in the sleepy dawn,
 Mad-drunk with dew among my breezy poplars,
 May choose another home, and nought be said;
 So that the swallow when from the south he comes,
 May not forget to build within my barn,
 And twitter gently underneath my eaves.
 For where he breeds, the new-mown sweating hay
 Will not take fire; and every grain of wheat
 In any field o'er which his lucky flight
 Has skimmed, grows fat; he brings prosperity;
 And I, when I can hear him in the morn,
 Talking his swallow-tongue beneath the rafters,
 Always take it as a blessing to the fields.
 (*The Farmer's Prayer.*) —"JOHN PHILIP VARLEY."

Where sang the noisy masons of the eaves,
 The busy swallows circling ever near,
 Foreboding, as the rustic mind believes,
 An early harvest and a plenteous year.—READ.

And I thought of homely proverbs, that on simple lips had
 birth,
 How, where'er the swallow builded under human roofs her
 nest,
 Something holier, purer, higher, in the house became a guest.
 (*Higher Tenants.*) —PIATT.

Barns that they haunt no thunder-bolt can shatter,
 Full many a hind believes;
 No showers that bring a blighting mildew patter
 Upon the golden sheaves.
 Taught were our fathers that a curse would follow,
 Beyond expression dread,
 The cruel farmer who destroyed the swallow
 That builded in his shed.—HOSMER.

The proprietor of the barn last mentioned, a German, assured me that if a man permitted the swallows to be shot his cows would give bloody milk, and also that no barn where swallows frequented would ever be struck by lightning.—ALEXANDER WILSON. (Op cit., s.v. Barn swallow.)

Cf. J. G. Fraser, *Swallows in the House*. *Cl. Rev.* 1891, 1.

The injunction of Pythagoras—*χελιδόνα οἰκίᾳ μὴ δέχου*—and the suggestion that the swallow was ever an ill-boding bird, are unknown in the American tradition. Vid. s. v. LUSCINIA.

Cf. At caret insidiis hominum, quia mitis, hirundo.

—Ov., *A. A.* II, 149.

Cf. also *Cl. Rev.*, 1891, p. 230.

In the popular *versos* and *coplas* of the New Mexicans, collected by my colleague Professor A. M. Espinosa and by him kindly placed at my disposal, I had hoped to find many survivals from Latin times. These folk poets, however, appear to know but only a very few of our native birds, and the traditions of the European birds seem to be almost wholly lost among them. My friend called attention to the lines below, which are of interest as types of Christian folk-lore reminiscence. They appear in a very wide range of modern literature.

En el monte Calvario las golondrinas
 Le arrancaron Cristo diez mil espinas.

—*Bib. Tr. Popul.* IV, 90.

Cf. also:

Los gilgueritos
Le quitaron a Cristo
Los tres clavitos.—RODRIG., Marin. IV, 43.

Cf. Why the robin's breast is red:

'Twas but one thorn I might untwine
From all that agony.
Yet I shall wear the rosy sign,
The red-cross of his smile divine,
Upon me till I die.—TICHNOR.
(*Redbreast at Calvary.*)

LEGEND OF THE SWALLOW

In the hush of the summer morning
The children silent stood,
While a swallow over the sunny eaves
Was feeding her early brood.

Five little bright-eyed brownies
Fearlessly poised and hung
On the edge of the roof, while the
mother bird
Over them circled and sung.

And we all kept watchful silence
Till the dear bird stooped to rest,
And called their fledglings home again
To the shelter of the nest.

When the blessed Son of Mary
On the cross of sorrow hung,
One little brave bird, faithful still,
Over him fluttered and swung.

All other birds were silent
And dumb in the fearful shade,
For even the winds were hushed in
grief,
And the waters were afraid.

But she called, "Console, console Him!"
And at last the branches stirred,

And forth with tremulous note of woe
Came many a pitying bird.

The stork cried, "Strengthen, strength-
en Him!"

The dove could only wail
The name of the dear Lord, "Kyrie!"
The cross-bill plucked at a nail!

Then the eyes of the Son of Mary
Grew soft with a dying light,
And a look of eternal blessing fell
On the birds as His soul took flight.

And now are these winged ones sacred,
The swallow, the stork, the dove,
And the cross-bill that bears on his
blood-red beak
The sign of the Savior's love.

But the bird of consolation
Is the swallow, and he may well
Rejoice, on whose roof in the summer
days
The swallow may choose to dwell.

For that blessed glance makes sunlight
In the nest beneath the eaves,
And comfort falls in heavenly dew
If one in that household grieves.

—MACE.

Cf. And there, when pulsing sadly, stood
 The robin by the slain,
 His plumage caught from Abel's blood
 Its never-fading stain.—STANTON.

Vid. also Whittier, *The Robin*.

But cf.

No blackbird bates his jargonings
 For passing Calvary.—EMILY DICKINSON.
 (*Two Worlds*.)

Cf. Gales, *Birds in Christian Legend and Symbolism*. *Liv. Age*,
 256, 416. Vid. also Longfellow, *The Legend of the Crossbill*.

For *hirundo* as a term of affection vid. s. v. ANAS. Plaut., *Asin*.
 694.

The song of the swallow. Cf. Wackernagel, op. cit., p. 58.

Pulpulat et pavo, trissat hirundo vaga.
 —*Anth. Lat.* 762, 26.

Garrula versifico tignis mihi trissat hirundo.
 —*Anth. Lat.* 733, 5.

Iudice me cyncus et garrula cedat hirundo,
 Cedat et inlustri psittacus ore tibi.
 (*Carmen filomelaicum*.) —*Anth. Lat.* 658, 19.

Cf. Lucr. III, 6; Stat., *Theb.* XII, 478; *Anth. Lat.* 390, 27; 199, 55.

The mother swallow thrills.—ALICE CARY.

I wish the twittering swallow had
 A finer song to sing.—ALICE CARY.

And the gossip of swallows through all the day.—BRYANT.

But up and down the chimney stack
 The swallows moaned and stirred.—WHITTIER.

And his talk a sweeter twitter
 Than the swallow understands.—RILEY.

Or chimney-swallows come anew,
 And talking in the sooty cavern.—READ.

IBIS. ἰβίς. Ibis.

Tantalus ibis, *Ibis religiosa*, White or Sacred Ibis. *Plegades falcinellus*, Glossy or Black Ibis. Vid. Thompson, op. cit. s. v. for a particularly good discussion and bibliography of this interesting bird.

American parallels: Scarlet Ibis, which name is wrongly applied in Liddell and Scott to the second species, mentioned above. White-faced glossy Ibis.

Butterworth (Sladen): *The Florida Ibis*.

No snowy heron, no rose-colored ibis ever is seen here, wild and charming.—AUDUBON, *Journal* (England), vol. I, p. 113.

The sacred ibis. Flight and service:

Tum sacrae veniunt altis ex nubibus ibes.

Auxilium sacrae veniunt cultoribus ibes.

—AEM. MAC., Baehrens, *P. L. M.*, p. 344.

Cf. Cic., *N. D.* I, 36; *Tusc.* V. 27.

Cf. But why grant such honors to the wild, harmless and apparently useless ibis? It is perfectly well proved at this day that the ibis is as useless as it is inoffensive.—ALEXANDER WILSON. (Op. cit., s. v. Glossy Ibis.)

Wilson's whole discussion is of interest as a commentary upon the treatment of the ibis by Herodotus, Aelian, Cicero and Pliny.

Soon will the sacred ibis her weird flight
Wing from the fens where shore and river merge.—ROBERTS.

The ibis uses its bill as a clyster pipe:

Et quibus exiguo volucris devota libello est,

Corpora proiecta quae sua purgat aqua.

—Ov., *Ib.* 449.

Cf. Cic., *N. D.* II, 50; Plin. VIII, 41, X, 68.

The gods in order to escape the giants assume various shapes. Mercury takes the form of an ibis:

“Duxque gregis,” dixit, “fit Iuppiter. Unde recurvis
Nunc quoque formatus Libys est cum cornibus Ammon:
Delius in corvo, proles Semeleia capro,
Fele soror Phoebi, nivea Saturnia vacca,
Pisce Venus latuit, Cyllenius ibidis alis.”

—Ov., *Met.* V, 327.

O Ibis, Ibis, bird of Hermes bold.

—BUTTERWORTH (Sladen).

Or Hermes who interpreted

What the sage cranes of Nilus said.—WHITTIER.

The ibis was worshipped in Egypt:

Quis nescit, Volusi Bithynice, qualia demens
Ægyptus portenta colat? Crocodilon adorat
Pars haec, illa pavet saturam serpentibus ibin.

—JUV. XV, 1.

Cf. Cic., *N. D.* I, 101; Plin. X, 75.

Ibis, destroyer of sin's viperous brood.—BAILEY.

The ibis stands in this tomb of lands,

As if in a pallor of woe,

On the banks of the Nile, the sacred Nile,

The Nile of ages ago.—BEN KING.

The tide that loosens the temple's stones,

And scatters the sacred ibis-bones.—WHITTIER.

Thou look'st in vain for Egypt's mystic strand;

The holy ibis never comes anear,

Nor bannered Bedouins in their spangled gear.—MIFFLIN.

(*The Obelisk, in New York.*)

LAGOIS. Λαγῶπους. Ptarmigan(?).

L. Alpinus. The *lagois* and *lagopus* (Plin. X, 68), are probably the same.

American literary parallels: Partridge, grouse.

The exotic *lagois* on the Roman table:

Tu pulmentaria quaere
Sudando: pinguem vitiis albumque neque ostrea
Nec scarus aut poterit peregrina iuvare lagois.

—HOR., *Sat.* II, 2, 20.

Cf. Schol. Porphyr.: *Avis leporini coloris.* Plin. X, 68: *Alpium peculiaris avis est lagopus, praecipuo sapore: pedes leporino villo nomen ei hoc dedere, cetero candidae, columbarum magnitudine.*

The *lagopode* (*glaucopide*, *lagalopece*) of Mart. VII, 87, 1, may possibly refer also to the *lagois* or *lagopus*, although the epithet *aurita* is against this identification.

LUSCINIA, (AEDON, PHILOMELA). Ἀηδών. Nightingale.
Motacilla lusciniæ, L., *Daulias lusciniæ*.

American literary parallels: Mocking-bird, brown thrush, whip-poor-will.

I—who, though born where not a vale
 Hath ever nursed a nightingale,
 Have fed my muse with English song
 Until her feeble wing grew strong.—TIMROD.

Cf. Billson, *Nightingales and Poets*. *Liv. Age*, 156, 756; Burroughs, *A Hunt for the Nightingale*. *Cent.* 5, 774.

Vid. int. al.:

Matthew Arnold: *Philomela*.

Barnefield: *Philomel*.

Bridges: *Nightingales*.

Drummond of Hawthorne: *To the Nightingale*.

Milton: *To the Nightingale*.

Sidney: *Philomela*.

Swinburne: *Itylus*.

Allston: *The Angel and the Nightingale*.

Kemble (Stedman): *Lament of the Mocking-bird*.

Hayes: *The Mocking-bird*.

Lanier: *To our Mocking-bird*.

Morris: *The Whip-poor-will*.

Machar (Sladen): *The Whip-poor-will*.

Van Dyke: *The Whip-poor-will*.

Pike: *To a Mocking-bird*.

Stanton (Stedman): *The Mocking-bird*.

Stedman: *Le jour du Rossignol, Music at home (Catbird)*.

Stockard (Stedman): *The Mocking-bird*.

Wilde (Stedman): *To the Mocking-bird*.

Van Dyke: *The Mocking-bird*.

W. H. Timrod: *The Mocking-bird*.

Carman-Hovey: *The Mocking-bird*.

Tabb: *The Mocking-bird*.

Hic avis est quaedam dulci celeberrima voce,

Quae variare sonos usque canendo solet.

(*Descriptio Pennsylvaniae*, anno 1729.) —THOMAS MAKIN.

Translation:

'Tis here the mocking-bird extends his throat,
 And imitates the birds of every note.—PROUD.

(*History of Pennsylvania*, vol. II, p. 365.)

The lonely whip-poor-will, our bird of night,
 Ever unseen, yet ever seeming near.
 (*The Backwoodsman.*) —PAULDING.

And from the woods the late resounding note
 Issued of the loquacious whip-poor-will.—FRENEAU.

Lone whip-poor-will,
 There is much sweetness in thy fitful hymn
 Heard in the drowsy watches of the night.
 —MCLELLAN (*Griswold*).

The Bird of sorrow' wak'd her funeral song.—ALSOP.

The plaint of the wailing whip-poor-will,
 Who moans unseen, and ceaseless sings
 Ever a note of wail and woe,
 Till Morning spreads her rosy rings,
 And earth and sky in her glances glow.—DRAKE.

Why dost thou come at set of sun,
 Those pensive words to say?
 Why whip poor *Will*? What has he done?
 And who is *Will*, I pray?—MORRIS.

In the grove the whip-poor-will
 Forgot his story, and sat still.—READ.

The hand of sorrow touched me,
 And made my senses thrill
 With all the pain that haunts the strain
 Of mournful whip-poor-will.
 "*Whippoorwill! whippoorwill!*"
 Sad and shrill,—"*whippoorwill!*"—HENRY VAN DYKE.

Hic avis est repetens, *whip-whip-will*, voce jocosa;
 Quae tota verno tempore nocte canit.—THOMAS MAKIN.
 (*Descriptio Pennsylvaniae*, anno 1729.)

Translation:

Here's Whip-per-will; a bird, whose fanci'd name
 From its nocturnal note imagin'd came.—PROUD.
 (*History of Pennsylvania*, vol. II, p. 360.)

¹ By this appellation I have thought proper to designate the Whipperwill, a species of goatsucker, whose mournfully monotonous and funeral note appears to me to justify the term.—*Author's Note.*

Nor screams of night bird rend the twilight air,
 Excepting him who, when the groves are still,
 Hums am'rous tunes and whispers *whip-poor-will*;
 To hear whose carol elves in circles trip,
 And lovers' hearts within their bosoms leap.
 (*A New England Pond.*) —KNAPP(?) (Duyckinck).

And the lone *muk-a-wiss*¹ was heard,
 That solemn and prophetic bird,
 Outpouring a melodious hymn
 Beneath the shade of leaf and limb.—HOSMER.

For a discussion of *Luscinia* vid. Note IV, RUSCINIA.

The myth of Philomela, Progne and Tereus:

Progne and Philomela were the daughters of Pandion, king of Attica. Tereus, king of Thrace, married Progne, and at her request went to Athens to bring Philomela to see her sister, and, having ravished her on the way, he cut out her tongue. Of this Progne was informed by a robe which Philomela sent her, on which was described the conduct of Tereus. Progne, on this, killed Itys, the son of Tereus, and served him to his father. Tereus would have slain her, but the gods changed him into a hoopoe, Progne into a swallow, and Philomela into a nightingale.

Cf. Ov., *Met.* VI, 412, int. al.

So Philomel bewailed sad Isis'² fate,
 And mournful accents still her woes relate.—AQUILA ROSE.

The later myth of the nightingale immolating herself, in sorrow, upon a thorn, does not occur in the ancient poets, but cf. inter al. the following:

Sings out her woes, a thorn her song-book making.—SIDNEY.

She, poor bird, as all forlorn
 Leaned her breast up-till a thorn,
 And there sung the dolefullest ditty,
 That to hear it was a great pity.
 Fie, fie, fie! now would she cry,
 Tereu, Tereu! by and by.—BARNEFIELD.

¹ Indian name for the whip-poor-will. The Indians and some of the inhabitants of the back settlements think if this bird alights upon any house, that it betokens some mishap to the inhabitants of it.—CARVER.

² Thus printed by Stedman and Hutchinson, op. cit., p. 345. *Itys* is the probable reading.

How this heart was the thorn
Which pierced that breast forlorn.—GILDER.

For he sings not now of wounding thorn,
He sings as the lark in the golden morn.—BAYARD TAYLOR.

A rose tree, and a nightingale
That bruised his bosom on the thorn.—ALDRICH.

The mountain-pink whose heart, you'd think,
The thorn-pierced sparrow's blood did drink.—CAWEIN.

We know thy breast was bleeding all life long,
O thou, the Nightingale of English Song!—MIFFLIN.
(*Ode to the Memory of Keats.*)

The metamorphosis of Philomela, Progne and Tereus:

Corpora Cecropidum pennis pendere putares:
Pendebant pennis. Quarum petit altera¹ silvas,
Altera² tecta subit, neque adhuc de pectore caedis
Excessere notae, signataque sanguine pluma est.
Ille dolore suo poenaeque cupidine velox
Vertitur in volucrem, cui stant in vertice cristae,
Prominet immodicum pro longa custide rostrum:
Nomen eops volucris, facies armata videtur.
—Ov., *Met.* VI, 666.

A reference to the myth:

Colchida respersam puerorum sanguine culpant,
Atque sua caesum matre queruntur Ityn.
Utraque saeva parens; sed tristibus utraque causis
Iactura socii sanguinis ulta virum.
Dicite, quis Tereus, quis vos irritet Iason
Figere sollicita corpora vestra manu?
—Ov., *Am.* II, 14, 33.

The crime from another point of view:

Arte mea Tereus, quamvis Philomela placeret,
Per facinus fieri non meruisset avis.
—Ov., *Rem. Am.* 61.

¹Nightingale, Philomela.

²Swallow, Progne. Thus usually in the Roman poets, due perhaps to a folk-etymology of Philomela. In the Greek poets the names are reversed. Dante, curiously enough, follows the Greek tradition. Cf. for Nightingale, *Purg.* XVII, 19; for Swallow, *Purg.* IX, 13.

Philomela canoris

Evocat in silvis, et tu, soror hospita, tectis
Aciperis, solis Tereus ferus exulat agris.

—AET. 587.

Cf. Ov., *Met.* VI, 668; Sen., *Ag.* 670; *Culex*, 250; Petr. 131; Silvestris aedon, atque urbana Progne.

The myth again with greater detail:

Aspice ut insignis vacua atria lustrat hirundo,
Vere novo maestis late loca questibus implet;
Victum infelicem maerens Philomela sub umbra
Adsiduo resonat cantu miserabile carmen.
Causa mali tanti coniunx, thalamique cruenti
Virginis os: notumque, furens quid femina possit.
Hic crudelis amor: crudelis tu quoque, mater;
Infelix puer, atque odium crudele tyranni.
Progeniem parvam curaeque iraeque coquebant,
Thræcio regi cum iam securus amorum
Coniugis infandae inter deserta ferarum
Fas omne abrumpit, pariterque loquentis ob ore
Decidit exanimis vox ipsa [et] frigida lingua:
Haut impune quidem dementia cepit amantem.
Pectore in adverso saevi monumenta doloris
Fertque refertque soror, crimenque [et] facta tyranni
Sanguis ait. Solidae postquam data copia fandi,
(Vulnera siccatbat circum praecordia) 'Sanguis,
Accipe' (ait) 'vocem,' ac saevo sic pectore fatur:
'Heu miserande puer, nunc te fata impia tangunt!'
Regalis inter mensas genitoris et ora
Polluit ore dapes, quidquid solamen humandi est.
Dum genitor nati morsu depascitur artus,
Et soror et coniunx petierunt aethera pinnis.
(*Progne et Philomela.*) —*Anth. Lat.* 13.

Cf. Sanguine muta probat facinus Philomela sorori,
Vimque vice linguae sanguine muta probat.
—*Anth. Lat.* 64.

Me sterilem Niobe, linguam Philomela rogant me.
—*Anth. Lat.* 199, 90.

There the lorn Philomel dissolves in tears.—R. T. PAINE.

Iole in her distress prays that she may be changed into a bird and express her grief after the manner of Philomela:

Vel in Edonas tollite silvas
Qualis natum Daulias ales
Solet Ismaria flere sub umbra:

Fugit vultus Philomela suos
Natumque sonat flebilis Atthis.
Cur mea nondum capiunt volucres
Bracchia plumas? Felix, felix,
Cum silva domus nostra feretur
Patrioque sedens ales in agro
Referam querulo murmure casus
Volucremque Iolen fama loquetur.

—SEN., *Herc. Oet.* 191, 199.

Daulias ales is, I believe, the nightingale. Riese's derivation from δαυλός, 'the singer of the thicket,' seems very probable. Cf. Palmer, Ovid, *Heroides*, p. 432, and Note IV, RUSCINIA. Obviously the translation, "like a swallow, Procne" (Harris, *The Trag. of Sen.*, p. 363) is made without consideration of the habits of the bird as reflected in *silvas* and *Ismaria umbra*. In the later lines Philomela, in contrast to *Daulias ales* above, may possibly be taken as a swallow, following the Greek tradition. Cf. Mart. V, 67. In either case we have a curious parallelism and repetition in *natum*. In connection with the above cf. the following:

Qualia sub densis ramoram concinit umbris
Daulias, absumpti fata gemens Ityli.

—CAT. LXV, 13.

Talis in umbrosis, mitis nunc denique, silvis
Deflet Threicium Daulias ales Ityn.

—CONSOL. AD LIV. 105.

And back from Daulis came the nightingale.

—BAYARD TAYLOR.

Oh, all ye liquid-throated nightingales
Singing among the dusky leaves of the trees,
Pour forth your lamentable elegies
Along the twilight of Sicilian dales!—MIFFLIN.
(*The Lament for Bion.*)

Dido's lot is like that of Philomela:

Ramis male garrula pendens
Iam philomela tacet damno male victa pudoris,
Amplexuque fovens querulos sub culmine nidos,
Pensat amore nefas, miserasque alitura querellas
Nocte gemit, quod luce dolet.—*Anth. Lat.* 83, 53.

Philomela and her song. This passage is almost unique in the Latin poets in its denial of sorrow in the nightingale's song. There is even the modern suggestion of joy, which is so rare in the ancient poets with all birds because of the metamorphosis associations. For a discussion of this whole subject cf. *infra* and *vid.* Note IV, RUSCINIA:

Assonat Terei puella subter umbram populi;
 Ut putes motus amoris ore dici musico,
 Et neges queri sororem de marito barbaro.
 Illa cantat: nos tacemus. Quando ver venit meum?
 Quando faciam uti chelidon, ut tacere desinam.

—*Perv. Ven.* 87.

Your songs and pleasant tunes they are the same,
 And so's the notes which nightingales do frame.

—ANNE BRADSTREET.

The joyous birds on every blossom'd spray,
 Sung hymeneans to the important day,
 While Philomela swell'd the spousal song
 And Paradise with gratulations rung.

—WILLIAM LIVINGSTON.

'Tis the merry nightingale.—COLERIDGE.

Ah! sweeter than Philomel's song
 Was the love-breathing strain of his lute.—LOW.

An ass munched thistles, while a nightingale
 From passion's fountain flooded all the vale.—LOWELL.

Sweetly from yon hollow vaults of shade
 The nightingales breathe out their souls in song.

—LONGFELLOW.

That's merrier than the nightingale.—LONGFELLOW.

The passion of the nightingale.—TIMROD.

When soft and deep in Sweden's skies
 Moons burn like golden fire,
 And the nightingale thrills all the wood
 With exquisite desire.—HIGGINSON.

While musing thus, with contemplation fed,
 And thousand fancies buzzing in my brain,
 The sweet-tongu'd Philomel perch'd o'er my head,
 And chanted forth a most melodious strain;
 Which rapt me so with wonder and delight
 I judg'd my hearing better than my sight,
 And wisht me wings with her a while to take my flight.

"O merry bird," said I, "that fears no snares,
 That neither toyles nor hoards up in thy barn,
 Feels no sad thoughts, nor cruciating cares
 To gain more good or shun what might thee harm;
 Thy cloaths ne're wear, thy meat is every where,
 Thy bed a bough, thy drink the water clear;
 Reminds not what is past, nor what's to come dost fear.
 The dawning morn with songs thou dost prevent,
 Sets hundred notes unto thy feathered crew,
 So each one tunes his pretty instrument
 And, warbling out the old, begins anew;
 And thus they pass their youth in summer season,
 Then follow thee into a better region,
 Where winter's never felt by that sweet airy legion."
 (*Contemplations*, 1678.)—ANNE BRADSTREET.

Professor Melville B. Anderson, now residing in Italy, thus interprets the nightingale's song, which, to him, voices both sadness and joy:

When ashes of the day at last
 Into the urn of night are cast,
 And heavy odors clog the gale,
 The leaf-enshrouded nightingale
 Pours from the fountain of his throat
 In many a rippling liquid note
 Those cadences so rich and deep
 That thrill the intervals in sleep,
 Awakening dim rememberings
 Of "old, unhappy, far-off things."
 Hark! he again the theme repeats;
 Who can tell how he sings but Keats—
 "Now more" (his heart was in that
 sigh)
 "Than ever seems it rich to die."
 But, as I say the line, my soul
 Whispers, "No truth if not the whole!"
 By night old legends throw a spell

Upon the lay of Philomel.
 Had you but from my oriel heard
 At dawn to-day the happy bird
 Make ring again the groves and hills
 With warblings, runs, bravuras, trills
 From yon tall poplar by the bridge,
 You would have felt with Coleridge
 That introspective bards obtrude
 Upon the lay an alien mood,
 And more by token listen wrong.
 The nightingale: his lilting song
 Is all of morning and delight,
 Instead of crooning crimes of night;
 In sooth, the minor strains are none
 Except, for modulation, "one
 Low piping sound more sweet than
 all,"—
 So thought the poet musical.

(*La Capponcina*. An Epistle to Friends.
 Settignano, Italy, April 1912.)

Hark! the nightingale is chanting
 As if her mate but knew;
 Yet the dream within me
 Which the bird-voice wakens,
 Takes from her unconscious
 Prompting, form and hue.—BAYARD TAYLOR.

The moonbeams over Arno's vale in silver flood were
pouring,
When first I heard the nightingale a long-lost love deploring.
—HENRY VAN DYKE.

Tablet and coronal
From the Cephissan grove have vanished long,
Yet in the sacred dale
Still bides the nightingale,
Easing his ancient heart-break still with song.—STEDMAN.

Cf. also Emma Lazarus, *Critic and Poet*.

We stood grief-struck, till one clear note,
Of soulful song the miracle,
Upon our hearts its pathos smote—
The voice of Philomel!—MIFFLIN.
(*The Slopes of Helicon*.)

Octavia prays that she may be metamorphosed into a nightingale
and thus lament her lot. Cf. the prayer of Iole, supra :

Quis mea digne deflere potest
Mala? Quae lacrimis nostris questus
Reddat aedon? Cuius pennas
Utinam miserae mihi fata darent!
Fugerem luctus sublata meos
Penna volucris procul et coetus
Hominum tristes caedemque feram.
Sola in vacuo nemore et tenui
Ramo pendens querulo possem
Guttur maestum fundere murmur.

—OCT. 914.

Then lull'd, by nightingales, to balmy rest.
—WILLIAM LIVINGSTON.

All the night
She lay awake, and heard the nightingales
Remind her of her sorrow and their own.—SUTHERLAND.

Somewhere a mourning-dove
Is plaining to the silence and the night—
A human heart-break in her grieving call.—HIGGINSON.

Octavia bids her grief exceed that of the daughters of Pandion :

Vince et volucres Pandionias:
Gravior namque his fortuna tua est.
—OCT. 8

Ceres bemoans the loss of Proserpina as Philomela does the loss of Itys:

Quacumque ingreditur, miseris loca cuncta querelis,
Implet, ut amissum cum gemit ales Ityn.
—Ov., *Fast.* IV, 481.

The nightingale as one of the harbingers of spring:

Nidum ponit, Ityn flebiliter gemens,
Infelix avis et Cecropiae domus
Aeternum opprobrium, quod male barbaras
Regum est ulta libidines.—Hor., *Od.* IV, 12, 5.

Best taken as referring to the nightingale. Horace, I believe, has in mind the Greek references to the nightingale as an announcer of spring (cf. Hom., *Od.* XIX, 518; Sappho, *Fr.* 19; Soph., *El.* 147), and as the mother of Itys (cf. inter al. Aes., *Ag.* 1116; Eur., *Frag.* 773; Ar., *Av.* 212), which is universally the Roman tradition, with the exception of Mart. V, 67 and possibly Sen., *Herc. Oet.* 199. Cf. Gemoss, *op. cit.*, p. 25, who argues for the swallow. Cf. Verg., *Ecl.* VI, 79; Ov., *Am.* II, 6, 7; III, 12, 32; *Trist.* II, 3, 89; *Culex* 251; Mart. X, 51.

And, deep within their bloom, my heart
Sings like some nightingale apart
In orange grove, while winds of May
Up the still valley waft his lay!—PROCTOR.

Whence comes the magic? Listen, sweetheart, listen!
The mocking-bird is singing: Spring is begun.
—HENRY VAN DYKE.

The nightingale,¹ the blackbird and the thrush,
Now tune their layes on sprays of every bush.
(*The Four Seasons of the Year. Spring.* 1650.)
—ANNE BRADSTREET.

The nightingale bereft of her young, bewails through the night her loss:

Qualis populea maerens Philomela sub umbra
Amissos queritur fetus, quos durus arator
Observans nido inplumes detraxit; at illa
Flet noctem, ramoque sedens miserabile carmen
Integrat, et maestis late loca questibus implet.
—VERG., *Geor.* IV, 511.

Cf. *Anth. Lat.* 17, 304.

¹In the earlier colonial American poetry, the nightingale is one of the most common of the birds to appear. This was due both to the strength of the European associations and the false identification of certain American song birds.

So in some poplar's shade, with soothing song,
 Sad Philomela mourns her captive young;
 When some rude swain hath found the unfeather'd prey,
 Her nest despoil'd, and borne the prize away;
 Thro the long night she breathes her plaintive strain,
 The slow, deep moan resounds, and echoes o'er the plain.

—JOHN TRUMBULL.

Leave to the nightingale her shady wood.—WORDSWORTH.

And Philomel shall teach the woods to mourn.—R. T. PAINE.

Sing me a song, my nightingale,
 Hidden among the twilight flowers.—ALICE CARY.

I must be up later than the nightingale.—LONGFELLOW.

The mocking-bird, the American mimic, singing all the
 forenoon,

Singing through the moon-lit night.—WHITMAN.

Pour out thy heart in strains of woe
 O bird: that in the willows' shade
 Singst till the stars do pale and fade.—YOUNG (Stedman).

Or that lost soul men call the nightingale,
 In bosky coverts hidden.—BAYARD TAYLOR.

And then a bird began to sing,
 A bulbul hidden in a bough.—ALDRICH.

The while he slept at midnight, in his ears
 The nightingale, whose sorrow is the world's,
 Has pour'd the hopeless passion of her song.—SUTHERLAND.

As out of the gloom of the cypress grove
 The mocking-bird sings at night.—DUNBAR.

Is heard the lonely serenade
 Of some heart-broken nightingale.—MATTHEWS.

O nightingale! sweet nightingale!
 In leafy covert dost thou mourn?—COX.

One mocking-bird, moon-saddened
 Sobs on.—CAWEIN.

When Dian's lune hangs dewy in the sky,
 And the wild nightingale with anguished might
 Bewails in some dense bramble's spicy dusk
 Its old heart-sorrow to the wild rose wan.—CAWEIN.
 (*Nature-Notes.*)

Various references to the night song of the nightingale :

Sum noctis socia, sum cantus dulcis amica :
 Nomen ab ambiguo, sic filomela gero.
 Insonnem filomela trahit dum carmine noctem,
 Nos dormire facit, se vigilare docet.
 Dic, filomela, velis cur noctem vincere cantu ?
 'Ne noceat ovis vis inimica meis.'
 Dic age, num cantu poteris depellere pestem ?
 'Aut possim aut nequeam, me vigilare iuvat.'
 —*Anth. Lat.* 658.

Kind Philomela ! whose sweet voice
 Beguiles the darksome hour ;
 Let your soft, warbling, tuneful throat
 The thrilling musick pour.
 The daily toils of patriot kings require
 Music at night, to check the patriot fire.
 —PIETAS ET GRATULATIO.

And Philomela's plaintive strains complete the roundelay.
 (*Evening.*) —SUSANNA ROWSON.

Then pours the plaintive Nightingale her notes,
 And all night long her melting music floats.—BIRTHA.

Across my waking dreams, the tremulous, drowsy notes
 Of the enthralling nocturn of the mocking-bird.
 —HIGGINSON.

Precor meritis qui nostra parent tibi dona
 Annua, et manes placida tibi nocte quiescant
 Et super in nido Marathonis cantet ædon.
 —BÜCHELER, *Carm. Epig.*, p. 220.

Surge, refer matri ne me noctesque diesque
 Defleat ut maerens Attica mater Ityn.
 —BÜCHELER, *Carm. Epig.*, p. 508.

Cf. But now the robin sings above thy tomb.
 —SANBORN (Stedman).

A raven on the moldering tomb.—SARAH HELEN WHITMAN.

While, from the dagger-tree, the bubbling song
 Of mocking-birds makes music all night long.
 (*The Lonely Grave.*) —SPOFFORD (Sladen).

From the grave of a lonely maiden
 A white cross upward sprung,
 And aloft on the carved marble,
 A bird in the sunset sung.—PROCTOR.

When greenest are the twinkling leaves
 Anear his silent couch of rest,
 The Ji-a-yaik¹ is heard and weaves
 Of velvet moss her little nest.—HOSMER.
 (*Grave of the Sachem.*)

Sappho and the night song of the nightingale, which is however wrongly portrayed as singing in the autumn:

Quin etiam rami positis lugere videntur
 Frondibus, et nullae dulce queruntur aves:
 Sola virum non ulta, pie maestissima mater
 Concinit Ismarium Daulias ales Ityn
 Ales Ityn, Sappho desertos cantat amores
 Hactenus ut media cetera nocte silent.
 —Ov., *Her.* XV, 151.

I dreamed of Sappho on a summer night.
 Her nightingales were singing in the trees.—CARMAN-HOVEY.

Cf. Keep the page till winter, when no thrush is heard.—SILL.

Cf. also Tabb, *Keats—Sappho*.

There is a whisper pale,
 As if a rose awoke,
 And, having heard in sleep the nightingale,
 Still dreaming of it spoke.—CAWEIN.

The morning song of the nightingale:

Pendet summo stridula ramo
 Pennasque novo tradere soli
 Gestit querulos inter nidos
 Thraecia paelex, turbaque circa
 Confusa sonat murmure mixto
 Testata diem.—SEN., *Herc. Fur.* 146.

Cf. Et mira lucem voce ciere novam,
 Quam nec aëdoniae voces nec tibia possit
 Musica Cirrhæis adsimulare modis,
 Sed neque olor moriens imitari posse putatur
 Nec Cylleneae fila canora lyrae.
 —LACT., *De Phoen.* 47.

Here Philomel high perch't upon a thorn
 Sings cheerful hymns to the approaching morn.
 —ROGER WOLCOTT.

¹ Ji-a-yaik is the Seneca word for Robin.—*Author's note.*

The sweet lay of the mocking-bird
Rings in the morning air.—BRYANT.

The thrush that carols at dawn of day.—LONGFELLOW.

No more the robin pipes his lay
To greet the flushed advance of day.—ABBEY (Stedman).

Vid. Barker, *Is the nightingale the Herald of Day, as well as the Messenger of Spring?* *Class. Journ.*, vol. 27, p. 91: 29, p. 2, 255; 30, p. 180 and p. 341.

A hundred thousand birds salute the day,
One solitary bird salutes the night.
—CHRISTINA G. ROSETTI.

Cynthia's sorrow is greater than the nightingale's:

Quid quereris nostram sic cecidisse fidem?
Non tam nocturna volucris funesta querela
Attica Cecropiis obstrepat in foliis.
—PROP. II, 20, 4.

Thompson's identification (op. cit., p. 46), γλαῦξ, *noctua*, is not convincing. Cf. int. al. Mart. I, 53, 9 infra; X, 51, 4; Hor., *Od.* IV, 12, 5. A spring poem. The sadness of Philomela:

Sentio, fugit hiems: Zephyrisque animantibus orbem
Iam tepet Euris aquis. Sentio, fugit hiems.
Parturit omnis ager, persentit terra calores.
Germinibusque novis parturit omnis ager.
Laeta virecta tument, foliis sese induit arbor,
Vallibus apricis laeta virecta tument.
Iam Philomela gemit modulis, Ityn impia mater
Oblatum mensis iam Philomela gemit.
—*Anth. Lat.* 235, 1.

Martial and Fidentius suggest a comparison of nightingale and magpie:

Sic ubi multisona fervet sacer Atthide lucus,
Improba Cecropias offendit pica querelas.
—MART. I, 53, 9.

Cf. Tu facis, in lucis ut cantet tristis aedon.
—*Anth. Lat.* 199, 54.

Hunc lucum Filomela tenet: circumvolat alis
Et dulcis queritur fetus suspensa ramo.
—*Anth. Lat.* 808, 38.

Arabia's Nightingale was he,
His incense-breathing Rose was she.—Low.

Thrilled by the poet-nightingales,
I turn, dear native land, to thee.—READ.

The nightingale would never waken more;
But in the northland by a stormy shore
A poet-child was born.—MACE,
(*A Buddhist Vision.*)

As well might tuneful Philomel complain,
That mute and grov'ling is the loathsome toad.—Low.
(*To a Lark.*)

Nightingales as table birds:

Quinti progenies Arri, par nobile fratrum,
Nequitia et nugis pravorum et amore gemellum
Luscinias soliti impenso prandere cœmptas.
—HOR., *Sat.* II, 3, 243.

Cf. Plut., *Apophth. Lacon. divers.* 13: Τίλας τις ἀηδόνα καὶ βραχεῖαν
πάνυ σάρκα εὐρὼν εἶπε, φάνα τὺ τίς ἐσσι καὶ οὐδὲν ἄλλο.

The Fable of the Peacock and Nightingale; Juno's reply to the former:

Pavo ad Iunonem venit, indigne ferens,
Cantus lusciniæ quod sibi non tribuerit.
Illum esse cunctis auribus admirabilem;
Se derideri, simul ac vocem miserit.
Tunc consolandi gratia dixit Dea:
Sed forma vincis, vincis magnitudine:
Nitor zmaragdi collo praeifulget tuo,
Pictisque plumis gemmeam caudam explicas.
Quo mi, inquit, mutam speciem, si vincor sono?
Fatorum arbitrio partes sunt vobis datae:
Tibi forma, vires aquilae, lusciniæ melos,
Augurium corvo, laeva cornici omnia,
Omnes quae propriis sunt contentae dotibus.
—PHAED. III, 18.

The masculine form is unique, but is scientifically correct, as only the male bird sings. Occasionally a modern poet uses the masculine, but usually, in accord with the metamorphosis association, the feminine prevails.

The Fable of the Nightingale and the perfidious Hawk:

Accipiter ad luscinae nidum dum sedet
 Auritum speculans, illic pullos invenit.
 Mater periculo mota prolis advolat
 Supplexque, pullis ut parcat suis, rogat.
 Accipiter: Quod vis, inquit, faciam, si bona
 Cantaris voce carmen modulatum mihi.
 At illa, quamvis excideret animus, tamen
 Metu coacta est et cantavit denique
 Dolore plena. Praedam qui captaverat
 Accipiter illi: non tu cantasti bene,
 Et unum e pullis apprehendit unguibus,
 Coepitque devorare. Ex diverso venit
 Auceps et calamo dam levato perfidum
 Viscum contingit atque in terram deiicit.

—*Aes. Fab. XVIII.*

The caged nightingale struggles to regain her freedom, even as Ovid does:

Cum bene sit clausae cavea Pandione natae,
 Nititur in silvas illa redire suas.—*Ov., Ex Pont. I, 3, 39.*

The same, but with opposite results:

Munera namque dedi, noster quae non dedit Idas,
 Vocalem longos quae ducit, aedona, cantus;
 Quae licet interdum, contexto vimine clausa
 Cum parvae patere fores, ceu libera ferri
 Novit et agrestes inter volitare volucres,
 Scit rursus remeare domum tectumque subire,
 Viminis et caveam totis praeponere silvis.

—*NEMES. II, 60.*

Cf. Jewett, *A Caged Bird*.

A proverbial reference to the nightingale's power of song:

Pol quoque metuo lusciniolae ne defuerit cantio.

—*PLAUT., Bacch. 39.*

An appreciation of the nightingale's song:

Dulcis amica veni, noctis solatia praestans;
 Inter aves etenim nulla tui similis
 Tu, filomela, potes vocum discrimina mille,
 Mille vales varios rite referre modos.
 Nam quamvis aliae volucres modulamina temptent,
 Nulla potest modulos aequiperare tuos.
 Insuper est avium, spatiis garrire diurnis.
 Tu cantare simul nocte diesque soles.

—*Anth. Lat. 762, 1.*

For the *locus classicus* of the nightingale's song vid. Plin. X, 29, 43.

They are not the soft sounds of the flute or of the hautboy that I hear, but the sweeter notes of Nature's own music. The mellowness of the song, the varied modulations and gradations, the extent of its compass, the great brilliancy of execution, are unrivalled. There is probably no bird in the world that possesses all the musical qualifications of this king of song, who has derived all from nature's self. Yes, reader, all!—AUDUBON, *Common Mocking-Bird*.

That our mocking-bird, in his native haunts in the South, surpasses any bird in the world in compass, variety and execution, is highly probable.—JOHN BURROUGHS, *English and American Song-Birds*. Cent. I, 357.

And thou America's sole boast!
 Pour out the joy sincere;
 Give each soft passion of the grove
 To charm the royal ear.
 These distant realms, by British valour won,
 Feel the warm rays of Britain's genial Sun.
 —PIETAS ET GRATULATIO.

Another appreciation of the nightingale's song:

Vox, filomela, tua cantus edicere cogit,
 Inde tui laudem rustica lingua canit.
 Vox, filomela, tua citharas in carmine vincit
 Et superat miris musica flabra modis.
 Vox, filomela, tua curarum semina pellit,
 Recreat et blandis anxia corda sonis.
 Florea rura colis, herboso cepite gaudes
 Frondibus arboreis pignera parva foves.
 Cantibus ecce tuis recrepant arbusta canoris,
 Consonat ipsa suis frondea silva comis.
 Indice me cycnus et garrula cedat hirundo,
 Cedat et inlustri psittacus ore tibi.
 Nulla tuos umquam cantus imitabitur ales,
 Murmure namque tuo dulcia mella fluunt.
 Dic ergo tremulos lingua vibrante susurros
 Et suavi liquidum gutture pange melos.
 Porrige dulcisonas adtentis auribus escas;
 Nolo tacere velis, nolo tacere velis!
 Gloria summa tibi, laus et benedictio, Christe,
 Qui praestas famulis haec bona grata tuis.
 —*Anth. Lat.* 658.

The robin sounds a beggar's note
 Where one the nightingale has heard,
 But he for whom no silver throat
 Its liquid music ever stirred,
 Deems robin still the sweetest bird.—DUNBAR.

The chirrup of the robin, and the whistle of the quail
 As he piped across the meadows, sweet as any nightingale.
 —RILEY.

But once—but once—to hear the nightingale.—HIGGINSON.

MEMNONIDES. Μέμνονος ὄρνιθες. Birds of Memnon.

The Ruff. *Machetes pugnax*. Thompson, op. cit., p. 116.

The Ruff has been taken occasionally on our eastern coast. There are no parallels in the American poets.

The curious myth of the Birds of Memnon is undoubtedly based upon the observation of the springtime fighting or 'hilling' of rival Ruffs. This identification was first made by Cuvier (Plin. X, 26, 37. Ed. Grandidier). But an older myth not connected with this particular bird, may well have been in existence. Cf. Holland, op. cit., pp. 1-5 for a discussion of this point with various Greek and Roman versions. He concludes that the myth is oriental in origin. In Ovid's version he sees Egyptian influences and a confusion with the myth of the Phoenix. Certain it is, that the account of Ovid presents inharmonious details. For modern descriptions cf. Newton, op. cit. s. v. and Montagu, *Suppl. Orn. Dict.* s. v.

How the birds of Memnon arose from the tomb of that hero and how they fought and perished:

At primos similis volucris, mox vera volucris
 Insonuit pennis; pariter sonuere sorores
 Innumerae, quibus est eadem natalis origo.
 Terque rogum lustrant, et consonus exit in auras
 Ter clangor: quarto seducunt castra volatu.
 Tum duo¹ diversa populi de parte feroces
 Bella gerunt, rostrisque, et aduncis² unquibus iras
 Exercent, alasque, adversaque pectora lassant,
 Inferiaeque cadunt cineri cognata sepulto
 Corpora, seque viro forti meminere creatas.
 Praepetibus subitis nomen facit auctor; ab illo
 Memnonides dictae, cum Sol duodena peregit
 Signa, parentali perituræ Marte rebellant.

—Ov., *Met.* XIII, 606.

¹The actual fighting of the Ruffs seems to be confined to rivals pitted one against the other and is naturally rarely fatal.

²Either conventional or points to another species, in the mind of the writer.

Quo properas, Aurora? Mane: sic Memnonis umbrae
Annua sollemnia caede parentet avis.

—Ov., *Am.* I, 13, 3.

Oh, not the swallows on the ridges high,
Nor plaintive note of piteous Philomels,
Nor dolphins rolling in the ocean swells
About the sea-banks, nor, in the summer sky,
The halcyon shrilling forth her mournful cry,
Nor that strange bird of Memnon in the dells
Of dawn, e'er sang such touching, sad farewells
As were poured forth, when, Bion, thou didst die!
(*The Lament for Bion.*) —MIFFLIN.

MERGUS. Κολυμβίς, αἶθουα et al.

Species indeterminate. Diver, cormorant, gull, grebe, merganser,
et al.

American literary parallels: The above, with possibly also the loon.

Allen (Stedman): *Sea-birds*.

Brainard (Griswold): *The Sea-Bird's Song*.

Bret Harte: *To a Sea-Bird*.

Lampman: *The Loons*.

Proctor: *The Stormy Petrel*.

Gould: *The Sleeping Albatross*.

Erskine: *The Sea-Gull*.

A rock, that is a haunt dear to the *mergi*:

Est procul in pelago saxum spumantia contra
Litora, quod tumidis summersum tunditur olim
Fluctibus, hiberni condunt ubi sidera Cori:
Tranquillo silet, immotaque attollitur unda
Campus et apricis statio gratissima mergis.

—VERG., *Aen.* V, 124.

Cf. Ov., *Met.* XIII, 625, s. v. FULICA. Luc. V, 555. Aut *siccum*
quod mergus amat.

The *mergi* frequent the hull of a shattered bark:

Ast vocat officium, trabe rupta, Bruttia saxa
Prendit amicus inops; remque omnem surdaque vota
Condidit Ionio; iacet ipse in litore, et una
Ingentes de puppe dei iamque obvia mergis
Costa ratis lacerae.—PERS. VI, 27.

Cf. But if, at last, upon some winding shore
A prey to hungry cormorants you lie.

—HOR., *Ep.* X, 21. (Trans. by Freneau.)

The *mergi* fortell the coming of storms:

Iam sibi tum curvis male temperat unda carinis,
Cum medio celeres revolant ex aequore mergi
Clamoremque ferunt ad litora.

—VERG., *Geor.* I, 360.

Vergil has here applied the name *mergus* to the ἐρωδιός (heron) of Aratus. Cf. Plin. 18, 87.

Blent with the sea-mew's clangor.—BAYARD TAYLOR.

The love of the *mergus* for the sea is like that of Gracinus for Ovid:

Nam prius incipiant turre vitare columbae,
Antra ferae, pecudes gramina, mergus aquas,
Quam male se praestet veteri Graecinus amico.

—OV., *Ex Pont.* I, 6, 51.

Cf. *Mergus et aequora scandit.*—*Anth. Lat.* 772, 38.

He came to the green ocean's brim
And saw the wheeling sea-birds skim.—EMERSON.

But lightly as the sea-bird swings
She floats the depths above.—HOLMES.

The feeding calls of *mergi* and other birds:

Postremo, genus alitum variaequae volucres,
Accipitres atque ossifragae mergique marinis
Fluctibus in salso victum vitamque petentes,
Longe alias alio iaciunt in tempore voces,
Et quom de victu certant praedaeque repugnant.

—LUCR. V, 1076.

For the story of the metamorphosis of Aesacus into a *mergus* vid. *Ov. Met.* XI, 749 ff.

The actual metamorphosis of Aesacus into a *mergus*, with some description of the bird and its habits:

Dixit et e scopulo, quem rauca subederat unda,
Decidit in pontum. Tethys miserata cadentem
Molliter excepit nantemque per aequora pennis
Texit, et optatae non est data copia mortis
Indignatur amans, invitum vivere cogi

Obstarique animae, misera de sede volenti
 Exire, utque novas umeris adumpserat alas,
 Subvolat atque iterum corpus super aequora mittit,
 Pluma levat casus: furit Aesacus inque profundum
 Pronus abit letique viam sine fine retemptat.
 Fecit amer maciem: longa inter nodia crurum,
 Longa manet cervix, caput est a corpore longe;
 Aequora amat nomen tenet, quia mergitur illo.

—Ov., *Met.* XI, 783.

Suddenly drops the gull and breaks the glassy tide.

—LOWELL.

Up from the stream with sluggish flaps,
 Struggles the gull and floats away.—LOWELL.

MERULA. Κόσσυφος. Blackbird.

Turdus merula.

American literary parallels: Grackle, redwing, blackbird, robin.

Tennyson: *The Blackbird*.

Ben King: *De Blackbird fetched de Spring*.

Ben King: *The Blackbird and the Thrush*.

A playful reference to the alarm-song of the blackbird:

Sed facitodum merula per vorsus quod cantat [tu] colas:

"Cum cibo cum quiqui" facito ut veniant, quasi eant Sutrium.

—PLAUT., *Cas.* 523.

The text adopted is that of Lindsay. For a discussion of the passage vid. *Cl. Rev.* 1891, p. 323; *Id.*, 1892, p. 124 and p. 227. Lindsay thus translates: "But see that you follow what the blackbird sings in its stave, see that they come 'food or no food,' as if they were marching to Sutrium." Verbal interpretations of the songs of birds by children and country folk are fairly common. Lindsay quotes 'a little bit of bread and no cheese,' as applied to the song of the yellow-hammer by English children.

And the blackbird sang, 'She is sorry, sorry, sorry,
 Let her in! Let her in!'—KINGSLEY.

Loquacious black-birds in the sunny brake
 Thick settling.—M'KINNON.

The red-wing flutes his o-ka-lee.—EMERSON.

Just come the blackbirds chatt'rin' in tall trees.—LOWELL.

Within my limits, lone and still
The blackbird pipes in artless trill.—WARTON.

The blackbirds jangle in the tops
Of hoary, antlered sycamores.—HOWELLS.

Blackbirds are singing
Clear hylas ringing.—CHANNING (Stedman).

The flock of blackbirds chattering in council overhead.
—CROSBY (Stedman).

Then, like a congress of blackbirds, held
In ancient tree-tops in October eves.—BAYARD TAYLOR.

No blackbird bates his jargoning
For passing Cavalry.—EMILY DICKINSON.

The frolic of the blackbirds.—WHITTIER.

Even the blackbirds in yon leafless tree
Wheezing and squeaking in discordant glee.—LAMPMAN.

In English gardens, green and bright and full of fruity
treasure,
I heard the blackbird with delight repeat his merry measure.
—HENRY VAN DYKE.

The sudden blackbirds bluster on the boughs.—MATTHEWS. .

A 'blackbirder' with eyes aloft falls into a pit and calls for aid:

Hic, dum sublimis versus ructatur et errat,
Si veluti merulis intentus decedit auceps
In puteum foveamve, licet, 'Succurrite,' longum
Clamet, 'Io cives!' non sit qui tollere curet.
—HOR., *A. P.* 457.

Many years ago, one election day, when he and other boys or young men were out gunning to see how many birds they could kill, Jonathan Hildreth, who lived near by, saw one of these birds (Scarlet Tanager) on the top of a tree before him in the woods, but did not see a ditch that crossed his course between him and it. As he raised his gun, he exclaimed, 'Fire never redder!' and, taking a step or two forward, with his eyes fixed on the bird, fell headlong into the ditch; and so the name became a byword among his fellows.—THOREAU, *op. cit.*, p. 328.

Blackbirds form part of a banquet :

Deinde secuti
Mazonomo pueri magno discerpta ferentes
Membra gruis sparsi sale multo non sine farre,
Pinguibus et ficis pastum iecur anseris albae,
Et leporum avolsos, ut multo suavius, armos,
Quam si cum lumbis quis edit; tum pectore adusto
Vidimus et merulas poni et sine clune palumbes,
Suaves res, si non causas narraret earum et
Naturas dominus. —HOR., *Sat.* II, 8, 85.

The blackbird's song :

Et merulus modulans tam pulchris zinzitat odis,
Nocte ruente tamen cantica nulla cantit.
—*Anth. Lat.* 762, 13.

These words of appreciation are remarkably modern in tone. Cf. Tennyson, *The Blackbird*. The blackbird like the lark did not get its full meed of honor among the ancients. As with the lark, there was lacking a great metamorphosis myth to fix and hold the bird in popular fancy.

Cf. the onomatopoetic verb *zinzitare* with Plaut., *Cas.* 524, Cum cibo cum quiqui. They may reflect the same notes, though more likely the Plautine words are taken from the bird's winter notes. Cf. Plin. X, 28, hieme balbutit.

The blackbird from a neighboring thorn
With music brims the cup of morn.—TIMROD.

Like the merle's note when its ecstatic heart
Is packed with summer-time.—ALDRICH.

And the blackbird left the piping of
His amorous airy glee.—ALICE CARY.

Or blackbirds' note, the harbinger of love.—FRENEAU.

To my ear the blackbird is the most satisfying of English birds.—CHAPMAN, *An American's Impression of English Birds.* *Scrib.* 39, 715.

MILVUS. ἰκτίς, Kite.

Falco milvus, also *M. iclinus* and *M. ater*, both being migrants in Italy.

American parallels: Swallow-tailed kite, falcon.

Stoddard (Stedman): *The Falcon*.

A kite threatened with a law suit for theft:

Pulmentum pridem eripuit ei milvos;
Homo ad praetorem plorabundus devenit;
Infuit ibi postulare plorans, eiulans,
Ut sibi liceret milvom vadariet.

—PLAUT., *Aul.* 316.

A picture of a kite hovering greedily in circling flight over the entrails of a sacrifice:

Ut volucris visis rapidissima milvus extis,
Dum timet et densi circumstant sacra ministri,
Flectitur in gyrum, nec longius audet abire,
Spemque suam motis avidus circumvolat alis.
Sic super Actaeas agilis Cyllenius arces
Inclinat cursus et easdem circinat auras.

—OV., *Met.* II, 716.

Cf. Vivit edax vultur ducensque per aera gyros
Milvus et pluviae graculus auctor aquae.

—OV., *Am.* II, 6, 33.

Another English name for the kite is *glead* or *gled*—cognate with glide.

The clocking hen her chirping chickens leads
With wings and beak defends them from the gleads.
(*Four Seasons. Spring.*)—ANNE BRADSTREET.

Has any Whitret's direfu' jaws,
Or greedy Gled's fell squeezing claws,
Made thy wee lord a feast?—ALEXANDER WILSON.

Save when the falcon, poised on wheeling wings.

—BAYARD TAYLOR.

Yonder bird,
Which floats, as if at rest,
In those blue tracts above the thunder.—TIMROD.

Don't the buzzards ooze around up there jest like they've
allus done?—RILEY.

Er a hawk—away up there,
'Pearantly froze in the air.—RILEY.

And the shadder o' the buzzard as he goes 'a-lazein' by.
—RILEY.

Distances were proverbially measured by the flight of the kite:

Dic, passer, cui tot montes, tot praedia servas
Appula, tot milvos intra tua pascua lassos?
—JUV. IX, 54.

Nostin' Vettidi praedia? Cuius?
Dives arat Curibus quantum non milvus errat.
—PER. IV, 25.

South as far
As ever eagle cleaved his way.—MILLER.

I know a falcon swift and peerless.—LOWELL.

The kite mounts to the very stars:

Hinc prope summa rapax milvus ad astra volat.
—MART. IX, 54.

Cf. Petr. 37, Qua milvi volant.

He followed his high heart
To swim on sunshine.—LOWELL.

A procurer likened to a kite and as such feared:

Tene sis me arte, mea voluptas; male ego metuo milvos.
Mala illa bestiast, ne forte me auferat pullum tuom.
—PLAUT., *Poen.* 1292.

The heartless falcon, poised for flight.—LATHROP (Sladen).

The greed of cooks and kites is on a par:

An tu invenire postulas quemquam coquom
Nisi milvinis aut aquilinis ungulis?
—PLAUT., *Pseud.* 851.

Cf. Petr. 49. Mulier, quae mulier! milvinum genus.

The kite's hunger was proverbial:

Madida quae mi adposita in mensam milvinam suggerant.
—PLAUT., *Men.* 212.

Cf. 'Hungry as a wolf.' 'Wolfsbären.' 'Βουλφία.'

The swoop of the kite sometimes fails :

Vidi petere milvom, etiam quom nihil auferret tamen.

—PLAUT., *Rud.* 1124.

The flight of the kite as a weather sign :

Iugere volitans milvus

Aquam e nubibus tortam indicat

Fore ut tegellum pastor sibi sumat.

—VARR., *Men. Rel.* 464.

For the mating of kite and dove, as symbolic of the impossible, cf. *Hor.*, *Ep.* XVI, 32; *Anth. Lat.* 729, 4.

Cf. 'Tis hard for one so good and young
To suffer thus! The poor white dove
Was murdered by a falcon's love.—READ.

And the swift hawk had ne'er the warbler torn.

—ALEXANDER WILSON.

Whilst dove and vulture, in promiscuous fright,
With staggering wing confusedly outpoured.

—WILLS (*Kettell*).

The eagle, with his soaring crest,
Disdained the robin's lowly nest.—STREET.

The falcon shrunk
From the meek dove.—HOLMES.

For the myth of how the kite became a constellation vid. *Ov.*, *Fast.* III, 793.

For the Fable of the Kite, who having been made King of the Doves, later devoured them, cf. *Phaed.* I, *Fab.* 31. S. v. COLUMBA.

For the Fable of the marriage of the Eagle and Kite cf. *Aes. Fab.* 30. S. v. AQUILA.

The Fable of the sick Kite, whose vows were of no avail, because of his temple thefts and desecrations :

Multos cum menses aegrotasset milvus

Nec iam videret esse vitae spem suae,

Matrem rogabat, sancta circuiret loca.

Et pro salute vota faceret maxima.

Faciam, inquit, fili; sed opem ne non impetrem,

Vehementer vereor; nam qui delubra omnia

Vastasti et cuncta polluisti altaria

Sacrificiis nullis parcens, nunc quid vis, rogem?

—*Aes. Fab.*, App. II, *Fab.* I.

The cry of the kite:

Accipitres pipant milvus hiansque lupit.
—*Anth. Lat.* 762, 24.

Dum milvus iugilat, trinnit tunc improbus anser.
—*Anth. Lat.* 733, 11.

Cf. Wackernagel, *op. cit.* s. v. MILVUS.

MONEDULA. Κολοιός. Jackdaw.

Corvus monedula L. Vid. s. v. v. CORNICULUS, GRACULUS.

American parallels: Blue-jay, magpie.

There the noisy blue-jay comes.—WHITTIER.

The crested blue-jay flitting swift.—WHITTIER.

The jackdaw as a pet bird for boys:

Nam ubi illo adveni, quasi patriciis pueris aut monerulae
Aut anites aut coturnices dantur, quicum lusitent,
Itidem haec mihi advenienti upupa qui me delectem datast.
—PLAUT., *Capt.* 1002.

Monerula as a term of endearment:

Dic igitur med aneticulam, columbam vel catellum,
Hirundinem, monerulam, passerulum putillum.
—PLAUT., *Asin.* 693.

Arne, who betrayed her country for gold, is changed into a jackdaw, which also has a passion for gold:

Marmoreamque Paron, quamque impia prodidit Arne
Mutata est in avem, quae nunc quoque diligit aurum,
Nigra pedes, nigris velata monedula pennis.
—Ov., *Met.* VII, 465.

As is the case usually with Ovid, the appearance and habits of the jackdaw are accurately described. Cf. Plin. X, 10, 41. *Monedulae*, cui soli avi furacitas auri argentique praecipue mira est. Cf. also Cic., *Flacc.* 31.

Cf. Grant Allen, *Aesthetic Feeling in Birds.* *Pop. Sci. Mo.* 17, 650.

And in the hollow thereof was found the nest of the magpie
Into whose clay-built walls the necklace of pearls was woven.
—LONGFELLOW.

MEROPS. Μέροψ. The Bee-eater.

Merops apiaster L.

Broderip: *Bee-eaters, etc.* Fraser, 57, 342.

American literary parallels: King-bird, 'bee-bird.'

Alexander Wilson: *The King-bird.*

Crèvecoeur: *Letters from an American Farmer. Letter II.*

The hostility of the *Merops* and of *Progne* to bees:

Absint et picti squalentia terga lacerti
Pinguibus a stabulis meropesque aliaque volucres,
Et manibus Progne pectus signata cruentis;
Omnia nam late vastant ipsasque volantes
Ore ferunt dulcem nidi immitibus escam.

—VERG., *Geor.* IV, 13.

Cf. Serv. ad loc. Meropes aves vocantur apiastreae, quia apes comedunt.

Did wasps or king-birds bring dismay?—FRENEAU.
(*Honey Bee.*)

The kingbird, hovers, darting on his prey;
And takes the ventured argosy of sweets,
Then boasts his conquest on the adjacent branch,
Where, like a pirate hauled against the wind,
He waits another sail.—READ.

Here o'er the woods the tyrant Kingbird sails,
Spreads his long wings, and every foe assails;
Snaps the returning bee with all her sweets,
Pursues the Crow, the diving Hawk defeats,
Darts on the Eagle downwards from afar,
And 'midst the clouds, prolongs the whirling war.

—ALEXANDER WILSON.

And the sunny chaplet spread
O'er the sleeping fly-bird's head,
Till, with dreams of honey blest,
Haunted, in his downy nest,
By the garden's fairest spells,
Dewy buds and fragrant bells,
Fancy all his soul embowers
In the fly-bird's heaven of flowers.—THOMAS MOORE.
(*Poems relating to America.*)

The poet here probably has in mind the humming-bird.

The note of the bee-eater is like that of wren and swallow:

Regulus atque merops et rubro pectore progne
Consimili modulo zinzizulare sciunt.

—*Anth. Lat.* 762, 43.

The bees have sucked the clover,
And the honey-birds call and hover
Over the hollow tree.—ROSE TERRY COOKE.

Strait he alights, and from the pear-tree spies
The circling stream of humming insects rise;
Selects his prey; darts on the busy brood,
And shrilly twitters o'er his savory food.
—ALEXANDER WILSON.

The bee-bird of the woodland,
That finds the honeyed hollows
Of ancient oaks, for others—
Even as these, am I.—BAYARD TAYLOR.

NOCTUA. Γλαῦξ. The little Owl.

Athene noctua.

American parallels: The screech owl, saw-whet owl, et al.

Low: *To the Owl.*

Hosmer: *The Owl.*

Cawein: *The Screech Owl.*

I'd say as much, wert thou Minerva's owl.—TIMROD.

The call of the *noctua* resembles 'Tu Tu':

Ma. Tu, tu istic inquam. Pe. Vin adferri noctuam,
Quae 'tu tu' usque dicat tibi? Nam nos iam defessi sumus.
—PLAUT., *Men.* 653.

My Owl sounds hoo-hoo-hoo-hoo.—THOREAU, op cit., p. 184.

Cf. *Anth. Lat.* 762, 40, *Noctua lucifuga cucubit in tenebris.*

Cf. Wackernagel, op. cit., 49.

The owl calls from the house tops at night, as a weather prophet:

At nebulae magis ima petunt campoque recumbunt,
Solis et occasum servans de culmine summo
Nequiquam seros exercet noctua cantus.
—VERG., *Geor.* I, 401.

Cf. Serv. ad. loc. *Noctua* significat pluviam, si cecinerat post solis occasum.

The heron on the sand-bar,
And the rain-owl made reply.—BALLARD.

Note—The *rain-owl* here is probably the cuckoo.

Cf. Echoes the owl aloof—
The last of all,—upon the roof.—READ.

The call as an ill omen :

Sive in finitimo gemuit stans noctua tigno,
Seu voluit tangi parca lucerna mero,
Illa dies hornis caedem denuntiat agnis,
Succinctique calent ad nova lucra popae.
—PROP. V, 3, 59.

Nor bird of night her hateful note resounds.—FRENEAU.

And as at Rome a like committee
Who found an owl within their city
With solemn rites and grave processions
At every shrine perform'd lustrations,
And, lest infection might take place
From such grim fowls with feather'd face,
All Rome attends him through the street.—TRUMBULL.
(*M'Fingal*. 1782.)

Entranced by Arion's voice, the crow and owl ceased their enmity.
Vid. Ben King, *The Owl and the Crow*.

Et sine lite loquax cum Palladis alite cornix
Sedit, et accipitri iuncta columba fuit.
—OV., *Fast.* II, 89.

For the hostility of other birds to the owl cf. Ov., *Met.* XI, 67; Plin. X, 19. For another reference to the owl in relation to Minerva cf. Ov., *Met.* II, 563. For the metamorphosis of Nyctimine into an owl by Minerva cf. Ov., *Met.* II, 589. Serv. ad. Verg., *Geor.* I, 403.

For Pallas, Goddess chaste, discreet and wise,
Gave thee that sober air and visage sad.—LOW.

Black from the forge of Belzebub,
And grim with metaphysic scowl,
With quill just pluck'd from wing of owl.
—DR. LEMUEL HOPKINS.

Awards her moping sage in common with the owl.
—HILL (Griswold).

His image flamed out on the terrible shield
 That Pallas up-bore when arrayed for the field;
 An Emblem that Wisdom, when others are blind,
 Clear-sighted, a path through the darkness will find.
 —HOSMER.

The wisest of the wild fowl,
 Bird of Jove's blue-eyed maid—the owl.—HALLECK.

I ask my peers,
 The erudite and learned in the law,
 Why the recusant owl is singled out
 As Wisdom's bird?—SIGOURNEY.

The Nightingale should be her bird
 And not the Owl, big-eyed and solemn.—ALDRICH.

Dear goose, thou'rt greatly wrong'd. I move the owl
 Be straightway swept from the usurper's seat,
 And thou forthwith be voted for, to fill
 Minerva's arms.—SIGOURNEY.

Once one of them (owls) perched over one of the windows and sat
 motionless, looking exactly like an owl of Pallas Athene.—ROOSEVELT.

Martial is an eagle, a plagiarist an owl:

Quid congregare cum leonibus vulpes,
 Aquilisque similes facere noctuas quaeres?
 —MART. X, 100, 3.

In the morning and by day the owl's eyesight is dim:

Et Hadrianus dulcius culex cantet,
 Videasque quantum noctuae vident mane.
 —MART. III, 93, 9.

Dim, like the day-struck owl, ye grope in light.
 (*The Conspiracy of Kings.*) —BARLOW.

He faced the east, where the sunshine streamed
 On the singing, sparkling sea,
 And he blinked with his yellow eyes, that seemed
 All sightless and blank to be.
 (*The Great White Owl.*) —CELIA THAXTER.

Roll thy wild eyeballs like the day-struck owl.
 (*The Anarchiad.*) —HUMPHREYS, BARLOW, HOPKINS,
 TRUMBULL.

The owl hoots at noon that the eagle is blind.—**HOLMES.**

Only a blind owl floating by.—**MATTHEWS.**

And the blinking owl from the dead oak peeps.—**STRONG.**

A reference to *owlish* eyes:

Tun etiam cum noctuinis oculis 'odium' me vocas?
—**PLAUT., Cur.** 191.

The owlet's eyes our lanterns be.—**DRAKE.**

The staring owl her note has sung.—**FRENEAU.**

The aforesaid owl,
With his dull, staring eyes, what hath he done
To benefit mankind?—**SIGOURNEY.**

And rolls around his wondering eyes,
Like a wise owl, in great surprise.—**MAXWELL (Kettell).**

Ez an owl by daylight amongst a flock of teazin chirpers.
Sees clear'n mud the wickedness o' eatin little birds.
—**LOWELL.**

But cf.

Thus pigeons, doves and other fowls,
Are often sacrificed by owls,
Barely because this bird of prey
Is blest with better eyes than they.—**HITCHCOCK.**

A house, which even owls would ignore:

Aedes emit Aper, sed quas nec noctua vellet
Esse suas: adeo nigra vetusque casa est.
—**MART. XI, 34.**

And when I tread the consecrated aisle,
And hear thee pour thy melancholy scream,
I'll ponder on my destiny the while;
The world of spirits shall be all my theme.—**LOW.**
(*To an Owl.*)

I know not if the night-owl calls
From Feudal battlements of stone
Inhabited by him alone.—**DAVID STARR JORDAN.**

The owlet roosts above its door.—**CAWEIN.**
(*The Haunted House.*)

The Fable of the Owl and the Cicada :

Cicada acerbum noctuae convicium
 Faciebat, solitae victum in tenebris quaerere,
 Cavoque ramo capere somnum interdiu.
 Rogata est, ut taceret. Multo validius
 Clamare coepit. Rursus admota prece,
 Accensa magis est. Noctua, ut vidit sibi
 Nullum esse auxilium, et verba contemni sua,
 Hac est aggressa garrulam fallacia:
 Dormire quia me non sinunt cantus tui,
 Sonare cithara quos putes Apollinis,
 Potare est animus nectar, quod Pallas mihi
 Nuper donavit: si non fastidis, veni:
 Una bibamus. Illa, quae ardebat siti,
 Simul cognovit vocem laudari suam,
 Cupide advolavit. Noctua, egressa e cavo,
 Crepitantem consecuta est, et leto dedit.
 Sic, viva quod negarat, tribuit mortua.

—PHAED. III, 16, 2.

Hark! 'twas the screech-owl's melancholy scream.—Low.
 (*Winter.*)

Bird of Minerva! denizen of night!—Low.

ONOCROTALUS. 'Ονοκρόταλος, πελεκάν. Pelican.

Pelecanus onocrotalus. *P. crispus.*

Thompson, op. cit., p. 122, 134, s. v. Πελεκάν.

Vid. Chapman, *An Intimate Study of the Pelican.* Cent. 71, 198.

American parallel: Pelican. *P. erythrorhynchus.*

The drowsy pelican wings home his way.—FRENEAU.

Full brother to the hungry pelican.—FRENEAU.

They swim like the swans and like pelicans call,—MILLER. .

The flapping pelican feeds about.—STEDMAN.

And like as grim-beaked pelicans level file,
 Across the sunset toward their nightly isle.—LANIER.

Gray Pelican, poised where yon broad shallows shine,
 Know'st thou, that finny foison all is mine
 In the bag below thy beak—yet thine, not less?

I sail with thee,
 Thy Pelican's self is mine.—LANIER.

A spot it was the bronzen fishermen
 Had fancied not, and left inviolate
 To screaming gull and wheeling pelican.—SUTHERLAND.

The gullet of the pelican is referred to in a simile:

Lydia tam laxa est, equitis quam culus aeni,

Quam veteres braccæ Britonis pauperis et quam
 Turpe Ravennatis guttur onocrotali.

—MART. XI, 21.

Cf. Martialis Ravennatem onocrotalum cognominat, a civitate Italiae circa quam conspicitur (in paludibus scilicet), quamquam Bellonius Galliae et Italiae incognitum esse scribit, nisi quod interdum in lacu Mantuae videatur.—GESNER, *op. cit.*, p. 606.

Uteri, qui huius avis faucibus haeret, tanta est capacitas, ut ipsi viderimus, ingentis staturae hominem ocreatum pedem usque ad genu in fauces immittentem eximentemque sine laesione.—PEROTTUS, GESNER, *op. cit.*, p. 607.

The later myth of how 'the pelican turneth her beak against her breast and therewith pierces it till the blood gusheth out, wherewith she nourisheth her young' is easily explained by the coloring and feeding habits of the bird. It was used by the early Christians, like the hibernation fallacy, as an emblem of 'piety,' and as such passed over into heraldic symbolism. I have not found a trace of it in the Latin and American poets covered in this study. Vid. Thompson, *op. cit.*, p. 134; Broderip, *Fraser* 58, 537; *Acad.* 25, 97; *Sci. Am. S.* 55, 22952; and cf.:

The painful pelican
 Self-sacrificial.—BAILEY.

OSSIFRAGA. Vid. s. v. HALIAEETOS.

PALUMBES. Φάσσα. Ring-dove.

Columba palumbus, Wood-pigeon, ring-dove. *Columba aenas*, Stock-dove.

Thompson, *op. cit.*, pp. 177-179, identifies the above as the ring-dove. Fowler, *A Year with the Birds*, pp. 218-223, thinks the stock-dove was most commonly meant by *palumbes*. The two species were no doubt confused by the Romans. Vid. s. v. v. COLUMBA, TURTUR.

American parallels: Mourning dove, passenger-pigeon.

How the *palumbes* appears on the Roman table :

Tum pectore adusto

Vidimus et merulas poni et sine clune palumbes,
 Suaves res, si non causas narraret earum et
 Naturas dominus. —HOR., *Sat.* II, 8, 90.

Quidquid ponitur hinc et inde verris,
 Mammæ suminis, imbricemque porci
 Communemque duobus attagenam,
 Mullum dimidium lupumque totum
 Muraenæque latus femurque pulli
 Stillantemque alicæ sua palumbum.
 —MART. II, 37, 1.

Inquina torquati tardant hebetantque palumbi:
 Non edat hanc volucrem qui cupit esse salax.
 —MART. XIII, 67.

The *palumbes* as a typical pastoral gift :

Parta meæ Veneri sunt munera : namque notavi
 Ipse locum, aeriae quo congessere palumbes.
 —VERG., *Ecl.* III, 68.

His tamen, his isdem manibus tibi sæpe palumbes,
 Sæpe etiam leporem, decepta matre, paventem
 Misimus in gremium : per me tibi lilia prima
 Contigerunt, primæque rosæ : vixdum bene florem
 Degustabat apis, tu cingebare coronis.
 —CALP. III, 76.

Praeterea tenerum leporem geminasque palumbes
 Nuper, quæ potui, silvarum præmia misi.
 —NEMES. II, 67.

For her the chestnut drops its prickly hulls
 And the wood-pigeon yields its sav'ry meat.—T. C. JAMES.
 (*The Country Meeting.*)

Cf. Ov., *Met.* XIII, 833. Neither the ring-dove nor the stock-dove now breeds in Italy. This fact is due to changes in climate and the disappearance of forests, swamps and marshes. America furnishes a parallel in the case of the now all but extinct passenger-pigeon. Vid. Nissen, *Italische Landeskunde*, p. 373; Deecke, *Ital.*, p. 185; Fowler, *A Year with the Birds*, loc. cit. supra; Glover, op. cit., p. 112.

Innumerae volitare solent hic sæpe columbae;
 Unde frequens multis obvia præda datur.
 (*Descriptio Pennsylvaniae*, anno 1729.) —THOMAS MAKIN.

Gemit hinc palumbes, inde cereus turtur.

—MART. III, 58, 19.

Cf. Plin. XVIII, 267. A sign that summer is passing. Palumbium utique exaudi gemitus. Transisse solstitium caveto putes, nisi cum incubantem videris palumbem.

Cf. Wackernagel, op. cit., p. 59; Winteler, op. cit., p. 17.

The stock-dove plaining through its gloom profound.

(*Gertrude of Wyoming.*) —THOMAS CAMPBELL.

Quiet by nothing harsher broken

Than wood-doves' meditative coo.—LOWELL.

In the covert of the pine trees

Cooed the pigeon, the Omime.—LONGFELLOW.

Groves where Cowper's stock-dove cooes.—BROWN.

(*First Sight of England.*)

PARRA. Ολῳάνθη (?). An unidentified bird.

Perhaps one of the owls. "Grünspecht oder Schleiereule." Gemoss.

The various owls are possible American parallels.

Cf. Larcom, *The Sunset-bird of Dominica*.

The *parra*, when seen on the right, is a good omen:

Unde sumam? Quem intervortam? Quo hanc celocem
conferam?

Inpetritum, inauguratumst; quovis admittunt aves.

Picus et cornix ab laeva; corvus, parra ab dextera

Consuadent. —PLAUT., *Asin.* 257.

The call of the *parra* associated with other inauspicious omens:

Impios parrae recinentis omen

Ducat, et praegnans canis, aut ab agro

Rava decurrens lupa Lanuvino

Fetaque vulpes. —HOR., *Od.* III. 27, 1.

There rose an owl's cry, from the woods below,

Like a lost spirit.—SILL.

The hollow, quivering, loud-repeated howl,

Full overhead, betrays the haggard owl;

Who, well for her, in muffling darkness past,

Else this heart-sinking scream had been her last.

(*The Foresters.*) —ALEXANDER WILSON.

PARRUS. Ἀλυθάλος(?). Titmouse (traditional identification).

American literary parallels—which seem best to suit the references below: Song-sparrow, ground-sparrow. The Chickadee is a literary parallel for the traditional identification.

Vid. Trowbridge, *Midwinter*.

Marian Douglas (Griswold): *My Winter Friend (The Chickadee)*.

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Hathaway: *Chickadee*.

Bryant: *The Song-sparrow*.

Jones Very: *Our Native Sparrow; English Sparrows*.

Dinsmoor (Duyckinck): *The Sparrow*.

A bird that stays in wintry days,

A friend indeed is he;

And better than all other birds

I love the chickadee.—MARIAN DOUGLAS (Griswold).

(*My Winter Friend*.)

The *parrus* sings all night long, but pleases no one with its song:

Parrus enim quamquam per noctem tinnipet omnem,

Sed sua vox nulli iure placere potest.

—*Anth. Lat.* 762, 9.

The reference here may be to one of the the smaller owls.

Cf. The *whetsaw's* tinkle, and the owl's loud shout.—STREET.

The *parrus* is a field-bird:

Haec inter merulae dulci modulamine cantus

Zinzilat et laetis parrus nunc tinnipat arvis.

—*Anth. Lat.* 733, 8.

He your steadfast brother was,

Lowly field-bird of the grass.—CARMAN-HOVEY.

PASSER. Στρουθός. Sparrow.

Various species were connoted by *passer*.

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Forsyth: *The English Sparrow*.

Gould: *The Sparrow*.

Hirst (Stedman): *The Fringilla melodia*.

Lampman: *The Song-sparrow*.

Larcom: *A Song-Sparrow in March; The Field Sparrow; The Sing-away Bird* (the white-throated sparrow).

Lathrop: *The Song-Sparrow*.

Thomas: *The Vesper Sparrow*.

Valentine: *Sparrows*.

West: *The White-throated Sparrow*.

Carman-Hovey: *Ornithology*.

Vid. s. v. PARRUS.

Like Apollonius of old,
Who knew the tales of sparrows told.—WHITTIER.

Lesbia's sparrow:

Passer, deliciae meae puellae,
Quicum ludere, quem in sinu tenere,
Qui primum digitum dare atpetenti
Et acris solet incitare morsus.

—CAT. II, 1.

The free-born sparrows of the air,
That flit about her windows fair,
Enjoy her smile and have her care.—WALLACE.

Lugete, o Veneres Cupidinesque
Et quantum est hominum venustiorum.
Passer mortuus est meae puellae,
Passer, deliciae meae puellae,
Quem plus illa oculis suis amabat:
Nam mellitus erat suamque novat
Ipsam tam bene quam puella matrem.
Nec sese a gremio illius movebat,
Sed circumsiliens modo huc modo illuc
Ad solam dominam usque pipilabat.

—CAT. III, 1.

Vid. Matthew Arnold, *Poor Mathias*.

Best taken as the common sparrow, but to the Roman reader other associations would inevitably occur. Cf. Gesner, *op. cit.*, p. 622.

Passer ille Catullianus allegorice, ut arbitrator, obsceniorem quempiam celat intellectum, quem salva verecundia nequimus enuntiare. Cf. Festus, s. v. *Strutheum*.

For echoes of these two inimitable bird poems vid. Juv. VI, 8; Mart. I, 7; I, 109; IV, 14; VII, 14; XIV, 77, et al.

Poe's *Raven* holds an analogous position in American literature.

Cf. Sarah Helen Whitman, *The Raven* (passim).

There comes Poe, with his *Raven*.—LOWELL.

The terrible might do, mother,—some wild, unearthly story;
I might ride, for a Pegasus, a nightmare into glory.
But then that "Raven" there, mother, above that 'chamber-door,'
I asked *him* if 'twould be a hit,—quoth the raven,
"Never more!"—'GRACE GREENWOOD.'

For *passerculus* as a term of endearment vid. s. v. COTURNIX. Plaut., *Asin.* 666, s. v. ANAS. Plaut., *Asin.* 693. Cf. also Varro, *Maripor.* For *pullus passer* in the same connotation vid. s. v. COLUMBA.

The association of the sparrow with Venus does not occur in the Latin poets. Vid. Sappho, *Fr.* I, 9.

To thy chariot yoked, fair fleet sparrows drew thee,
Flapping fast their wings; round the dark earth circling
From the lofty heaven down through middle ether
Quickly descending.—ELIZABETH AKERS.
(*Ode to Aphrodite. Sappho.*)

Passer as a term of reproach:

Dic, passer, cui tot montes, tot praedia servas.
—JUV. IX, 54.

Cf. Plin. X, 107. *Priap.* 26, 6.

For the Fable of the Sparrow and the Hare, vid. s. v. AQUILA. For the mother bird and the eight young devoured by the serpent at Aulis, vid. Ov., *Met.* XII, 15; Sil. Ital., *Il. Lat.* 147.

Perhaps, while here thou sweetly sung,
Some serpent stole thy new-fledg'd young;
Or boys, perhaps, in cruel play
Have borne thy tender care away.—BAYARD.
(*Address to the Robin Red-Breast. The
Columbian Muse, 1794, p. 179.*)

The sparrow as a harbinger of spring:

Nunc sturnos inopes fringillarumque querelas
Audit, et arguto passere vernat ager.
—MART. IX, 55, 7.

While the song-sparrow warbling from her perch
Tells you that spring is near.—BRYANT.

The Easter sparrow repeats her song,
A merry warbler, she chides the blossoms,
The idle blossoms that sleep so long.—BRYANT.

Here when the Spring begins to call
The sparrow sings his madrigal;
Through sleet and hail, in shine or rain,
I hear him o'er and o'er again:
"Resilio! Silio! Silio! Sil!"—ROSE TERRY COOKE.

The gray song-sparrows, full of spring, have sung
Their clear thin silvery tunes in leafless trees.—LAMPMAN.

The autumn song:

And sparrows fill the autumn air
With merry muting.—MITCHELL (Stedman).

Other references to the sparrow's song. Vid. Wackernagel, op. cit.,
p. 58.

Hinc titiare cupit diversa per avia passer.
—*Anth. Lat.* 733, 4.

Pessimus et passer sons titiare solet.
—*Anth. Lat.* 762, 30.

Every little sparrow twitters.—SILL.

The sparrow with its simple notes.—WHITMAN.

The song-sparrow's exquisite warble
Is born in the heart of the rose.—LARCON.

Here cat- and blue-bird and wood-sparrow wrote
Their presence on the silence with a tune.—CAWEIN.

PASSER MARINUS. Στρουθοκάμηλος. Ostrich.

Struthio camelus.

The ostrich in the circus:

Vola curriculo. Pa. Istuc marinus passer per circum solet.
—PLAUT., *Pers.* 198.

The *ales equus* of Cat. LXVI, 54, is probably an ostrich.

Cf. Giant-paced *mooa*; ostrich, feathery steed.—BAILEY.

The boast of the kite in the Fable of the Eagle and the Kite :

Aquila cum tristis assideret milvo
In arbore. Vultu quid te tam maesto, hic ait,
Conspicio? Quaero, dixit illa, coniugem
Parem nec invenire possum. Me accipe,
Te multo qui sum fortior. Quid? An potes
Ex raptō victum quaerere? Unguibus meis
Struthiocamelum rapui presum saepuis.

—*Aes. Fab. XXX.*

No entail

The first-born lifting into bloated pomp,
Tainting with lust, and sloth, and pride, and rage,
The world around him: all the race beside,
Like brood of ostrich, left for chance to rear,
And every foot to trample.—TIMOTHY DWIGHT.
(*Greenfield Hill.*)

Didst thou the ostrich clothe with plumes so neat,
Who leaves her eggs exposed to heedless feet?
Hatch'd by the genial influence of the sun,
Alone, the unfledged brood are left to run.
In flight she scorns the rider and his steed;
Through eddies of the sand unspurn'd, her speed
Impetuously she skims; than winds more fleet,
She triumphs in th' alertness of her feet.—DEVENS (*Kettell*).

As desert birds are by the sun
Warmed into life within their nests.—CLARKE.

For Love, when he would safely keep
His head in secret hiding deep
Is but an ostrich in the sand.—READ.

PAVO. Ταῶς. Peacock. *Pavo cristatus*.

The peacock's beauty is typical of its kind :

Aurea pavonum ridenti imbuta lepore
Saecla, novo rerum superata colore iacerent
Et contemptus odor smyrnae mellisque saporēs,
Et cycnea mele Phoebeaque daedala chordis
Carmina consimili ratione oppressa silerent.

—LUCR. II, 502.

Colors due to the effect of sunshine :

Caudaque pavonis, larga cum luce repleta est,
Consimili mutat ratione obversa colores.

—LUCR. II, 806.

Full on the morn the peacock op'd his beams.
(*Creation.*) —TIMOTHY DWIGHT.

Sylvia shone out, no peacock finer.—TRUMBULL.

Brilliant traits of mind,
And genius, clear and countless as the dies
Upon the peacock's plumage.—HALLECK.

She brings the magic of an Indian night
Where smolder peacock-breasts of phosphor-green,
Ruffled by jungle zephyrs ne'er so light.—RIGGS.

Men laud the peacock's beauty :

Laudatas homini volucris Iunonia pennas
Explicat, et forma muta superbit avis.
—OV., *Med. Fac.* 33.

But cf. Et praeter pennas nihil in pavone placebat.
—OV., *Fast.* VI, 177.

Cui comparatus indecens erat pavo,
Inamabilis sciurus, et frequens phoenix.
—MART. V, 37, 12.

Didicit iam dives avarus
Tantum admirari, tantum laudare disertos,
Ut pueri Iunonis avem.—JUV. VII, 30.

The parrot is more beautiful than the peacock :

Occidit aerae celeberrimae gloria gentis
Psittacus, ille plagae viridis regnator Eoae;
Quem non gemmata volucris Iunonia cauda
Vinceret adspectu, gelidi non Phasidis ales.
—STAT. SILV. II, 4, 24.

Cf. Mart. III, 58, 13. Gemmeique pavones.

The phoenix has some of the colors of the peacock :

Effigies inter pavonis mixta figuram
Cernitur et pictam Phasidis inter avem.
—LACT., *De Phoen.* 143.

The peacock's pride and haughtiness:

Laudatas ostendat avis Iunonia pennas:
Si tacitus spectes, illa recondit opes.

—Ov., *A. A.* I, 625.

Cf. Plin. X, 22; Col. IX, 11. Pavo etiam ad libidem extimulatur, semet ipsum, veluti mirantem, caudae gemmantibus pennis protegit, idque cum facit, rotare dicitur.

Cic., *Fin.* III, 5, 18. Cauda pavoni ad ornatum data est.

Laudato pavone superbior; acrior igni;
Asperior tribulis; feta truculentior ursa.

—Ov., *Met.* XIII, 801.

Explicat ipsa suas ales Iunonia pennas.

—Ov., *Am.* II, 6, 55.

Miraris quoties gemmantes explicat alas,
Et potes hunc saevo tradere, dure, coquo?

—MART. XIII, 70.

Quin tu igitur, summa nequidquam pelle decorus
Ante diem blando caudam iactare popello
Desinis, Anticyras, melior sorbere meracas.

—PERS. IV, 14.

Saepe etiam perdix iacet et Iunonius ales,
Gemmatam pinnis solitus producere caudam.

—*Anth. Lat.* 199, 69.

The peacock view, still exquisitely fair,
When clouds forsake, and when invest the air:
His gems now brightened by a noontide ray;
He proudly waves his feathers to the day.
A strut, majestically slow, assumes,
And glories in the beauty of his plumes.—DEVENS (Kettell).

On the hitching-block, boys, grandly satisfied,
See the old peacock, boys, on the sunny side.—RILEY.

The peacock as a table bird:

Vix tamen eripiam, posito pavone velis quin
Hoc potius quam gallina tergere palatum,
Corruptus vanis rerum; quia veneat auro
Rara avis, et picta pandat spectacula cauda;
Tanquam ad rem attineat quidquam. Num vesceris ista,
Quam laudas, pluma? Cocto num adest honor idem?
Carne tamen quamvis distat nihil hac magis illa,
Imparibus formis deceptum te patet. Esto.

—HOR., *Sat.* II, 2, 23.

Quanta est gula, quae sibi totos
 Ponit apros, animal propter convivia natum!
 Poena tamen praesens, cum tu deponis amictus
 Turgidus, et crudum pavonem in balnea portas:
 Hinc subitae mortes atque intestata senectus.

—JUV. I, 140.

For other references to the peacock in this connection int. al. vid.
 Hor., *Sat.* I, 2, 115; Pub. Syr. 304; Plin., X, 20; Var., R. R. III, 6;
 Col. VIII, 11.

A fan made of peacock feathers:

Et modo pavonis caudae flabella superbae,
 Et manibus dura frigus habere pila.

—PROP. III, 15, 11.

Cf. Ov., *Met.* XV, 385. Iunonis volucrem, quae cauda sidera portat.

The ruffling bird of Juno.—HALE (Stedman).

At her side
 The women stood and fann'd her, with their fans
 Of scented peacock feathers, bound with gold
 Where come the plumes together, set in rods
 Of ebony and silver, bright with gems.—SUTHERLAND.

A peacock spread his thousand dies to screen
 The yellow sunlight from the head of one
 Who sat upon the throne.—MOODY.

A *muscaria pavonina*:

Lambere quae turpes prohibet tua prandia muscas,
 Alitis eximiae cauda superba fuit.

—MART. XIV, 67.

How the eyes of Argus, slain by Hermes, were transferred to the
 tail of her favorite bird by Juno:

Arge, iaces; quodque in tot lumina lumen habebas,
 Exstinctum est; centumque oculos nox occupat una.
 Excipit hos, volucrisque suae Saturnia pennis
 Collocat, et gemmis caudam stellantibus implet.

—OV., *Met.* I, 719.

Di maris annuerant. Habili Saturnia curru
 Ingreditur liquidum pavonibus aera pictis:
 Tam nuper pictis caeso pavonibus Argo.

—OV., *Met.* II, 531.

Nomina dat spondae pictis pulcherrima pennis
Nunc Iunonis avis; sed prius Argus erat.
—MART. XIV, 85.

Innumerable peacocks midst the o'erhanging glooms,
Perch'd in proud state, display their gold-eyed plumes.
—ALSOP.

When a peacock, plumage trembling,—gaudy ocelli
resembling,
Myriad evil eyes dissembling,—rose again from out the
ground.—KITREDGE.

For the association of peacock with Juno vid. passim.

Matronam magni vehit ardens pavo Tonantis.
—*Anth. Lat.* 939, 1.

Scare not the sacred peacock where he spreads
His fan upon the wall.—MOODY.

Singing still
Their hymns in praise of Juno, bearing boughs
And peacock's plumes.—SUTHERLAND.

Proudly advancing, drawn by peacocks fair,
With gorgeous plumery, dancing in the air.
On that bright chariot, in imperial state,
The queen of Oberon, fair Titania, sate:
On downy cushion, rich with gold and green,
Aloft she sat, like Jove's celestial queen,
When, through the skies, she drives her glowing car,
And gazing gods adore her from afar.
(*Crystalina, a Fairy Tale.*)—BY AN AMERICAN (Kettell).

For the Fable of the Graculus Superbus et Pavo vid. s. v.
GRACULUS.

The Fable of the Peacock's complaint to Juno:

Pavo ad Iunonem venit, indigne ferens,
Cantus luscini quod sibi non tribuerit;
Illum esse cunctis auribus admirabilem:
Se derideri, simul ac vocem miserit.
Tunc consolandi gratia dixit dea.
"Sed forma vincis, vincis magnitudine;
Nitor zmaragdi collo praeferet tuo,
Pictisque plumis gemmeam caudam explicas."
"Quo mi," inquit, "mutam speciem, si vincor sono?"
Fatorum arbitrio partes sunt vobis datae;
Tibi forma, vires aquilae, luscini melos,
Augurium corvo, laeva cornici omnia,
Omnes quae propius sunt contentae dotis.—PHAED. III, 18.

Is it a spike of azure flowers,
 Deep in the meadows seen,
 Or is it the peacock's neck, that towers
 Out of the spangled green?—BAYARD TAYLOR.

Ennius was once a peacock:

Cor iubet hoc Enni, postquam destertuit esse
 Maeonides, Quintus pavone ex Pythagoreo.
 —PERS. VI, 10.

Cf. Enn., Baehrens, *P. L. M.*, p. 60. Memini me fieri pavom.

Or exiled to some humbler sphere,
 In yonder wood-dove dost thou dwell,
 And murmuring in the stranger's ear,
 Thy tender melancholy¹ tell?—GALLANDET (Kettell).
 (*Lines to a Western Mummy.*)

Each golden note of music greets
 The listening leaves, divinely stirred,
 As if the vanished soul of Keats
 Had faced its new birth in a bird.—HAYNE.

The peacock in the garden of Eden:

The eye-plumed bird, King Taous, who, so starred,
 God's garden entered, but crawled out, a snake.—BAILEY.

High over head, his body hid,
 A peacock reared its crest amid
 The Persian apple's crimson bloom,
 Whence floats a sweetly faint perfume;
 His sinuous neck, of brilliant blue,
 Each moment changing in its hue,
 As quick he turns from side to side
 His haughty head in conscious pride,
 A serpent seems, who, hid in flowers,
 Is seeking 'neath its leafy bowers
 This Eden's Eve, that he may win
 Her virgin soul to shame and sin.
 (*Clytie and Zenobia.*) —CLARKE.

The note of the peacock:

Cucurrire solet gallus, gallinā cacillat,
 Pulpulat et pavo, trissat hirundo vaga.
 —*Anth. Lat.* 762, 26.

¹These lines briefly set forth the whole doctrine of metamorphosis,—as portrayed (by the ancient poets) in its effect upon bird-life. Vid. *passim* and Note IV, RUSCINIA.

Cf. Varr., *L. L.* 5, 75. Pavo etiam, ut pleraeque volucres a sua voce, dictus est.

Cf. Wackernagel, *op. cit.*, p. 56.

From the hill-side, no longer discordant or harsh,
Comes the cry of the peacock, the jubilant cackle.
—TROWBRIDGE.

PERDIX. Πέρδιξ. Partridge.

Perdix graeca. *P. saxatilis.* *P. cinerea.*

American literary parallels: Quail, 'bobwhite,' ruffed grouse, et al.

A partridge (the nephew of Daedalus, and treacherously slain by him, but now metamorphosed into the bird of the same name) gleefully prattles as he beholds Daedalus burying his son Icarus:

Hunc miseri tumulo ponentem corpora nati
Garrula ramosa prospexit ab ilice perdix
Et plausit pennis testataque gaudia cantu est,
Unica tunc volucris nec visa prioribus annis,
Factaque nuper avis, longum tibi, Daedale, crimen.
—Ov., *Met.* VIII, 236.

Ovid, because of the dramatic situation and metamorphosis, is here thinking more of the lad Perdix than of the bird. Cf. *infra.* for habits of the bird.

The partridge in the brake.—WHITTIER.

A partridge whistled the whole day through.—MILLER.

The slaying by Daedalus of Perdix, who is metamorphosed by Pallas into the bird of the same name. A good account of the partridge's habits:

Daedalus invidit sacraque ex arce Minervae
Praecipitem misit, lapsum mentibus. At illum
Quae favet ingeniis, excepit Pallas avemque
Reddidit et medio velavit in aëre pennis.
Sed vigor ingenii quondam velocis in alas
Inque pedes abiit; nomen, quod et ante, remansit.
Non tamen haec alte volucris sua corpora tollit,
Nec facit in ramis altoque cacumine nidos:
Propter humum volitat ponitque in saepibus ova
Antiquique memor metuit sublimia casus.
—Ov., *Met.* VIII, 250.

For the accuracy of these details of observation cf. Newton, *op. cit.*, s. v.; Hudson, *op. cit.*, p. 267.

And partridges here keep in memory,
How to their loss they soared once too high.
(*Connecticut River.*) —ROGER WOLCOTT.

With drumming wings the mottled pheasant flew.
—HIGGINSON

Where the partridge is pluming his brown, mottled wing,
And beating his morning drum.—BROWN.

Where near her brood the hunter strayed
With trailing limp the partridge stirred.—STREET.

The Fable of the Partridge and the Fox:

Resedit alta quondam perdix arbore;
Advenit vulpes; deinde sic coepit loqui:
O quanta vultus species est, perdix, tui!
Ut ostrum crura fulgent et coralium.
At si dormires, quanto pulchrior fores!
Ut stulta perdix clausit oculos, illico
Rapit credentem vulpes. Illa fletibus
Haec mixta gravibus verba supplex edidit:
Tuarum, vulpes, per virtutes artium,
Ut ante, quaeso, nomen proferas meum:
Sic devorabis. Vulpes, ubi voluit loqui,
Aperuit os; at perdix evasit necem.
Decepta vulpes: Quid opus erat loqui mihi?
Respondit perdix: Et dormire quid mihi
Erat necisse, somnus cui non venerat.

—*Aes. Fab. XII.*

For the partridge in a Roman farm-yard scene vid. s. v. AFRA AVIS.

The partridge on the Roman table:

Ponitur Ansoniis avis haec rarissima mensis:
Hanc in lautorum mandere saepe soles.

—MART. XIII, 65.

Rustica sim an perdix, quid refert, si sapor idem est?
Carior est perdix. Sic sapit illa magis.

—MART. XIII, 76.

Nobis quae copia, dicam.
Silva feras tribuit, pisces mare et aura volucres,
Dat vinum Bromius, Pallas mihi praestat olivam,
Datque sues Calydonia et saepe ego condio dammas,
Saepe etiam perdix iacet et Iunonius ales,
Gemmatam pinnis solitus producere caudam.

—*Anth. Lat. 199, 65.*

Perna, lepus, turtur, perdix, Iunonius ales,
 Agnus, porcellus iunguntur, candidus anser.
 Aethera quod pontusque, altrix quod terra creavit,
 Cernimus esciferum paulatim sumere ventrem.

—*Anth. Lat.* 230.

'*Toujours perdrix*,' snipe, woodcock, trout or rabbit
 Offends the simplest palate, it appears.—WILLIS.

The partridge is one of the birds, 'quis nobile fandi ius Natura dedit.'
 Asked to bewail the death of the parrot:

Plangat Phoebeius ales
 Auditasque memor penitus dimittere voces
 Sturnus et Aonio versae certamine picae.
 Quique refert iungens iterata vocabula perdix,
 Et quae Bistonio queritur soror orba cubili:
 Ferte simul gemitus cognataque ducite flammis
 Funera et hoc cunctae miserandum addiscite carmen.

—*STAT., Silv.* II, 4, 18.

Iterata refers, I believe, to the repeated call note reflected in
 κακαβάζειν and cacare. Cf. *Anth. Lat.* 762, 19: Cacabat hinc perdix.
Anth. Lat. 733, 12: Interea perdix cacabat nidumque revisit.

Like a rusty key
 Turned in a lock.—TENNYSON.

PHASIDIS ALES. Φασιδὸς ὄρνις. Pheasant.

Phasianus colchicus.

American parallels: Partridge, pheasant, quail, et al.

Pheasants in a farm-yard scene, vid. s. v. AFRA AVIS.

For the very common association of pheasants and guinea-fowls
 vid. *Mart.* XIII, 45; III, 77, 4; *Juv.* XI, 139; *Stat., Silv.* II, 4, 27.

For the breeding of pheasants vid. *Col.* VIII, 8; *Athen.* 14, p. 654.

For prices vid. *Plin.* XXI, 43. *Edict. Dioclet. C. I. L.*, vol. III.

Pheasants were first imported by the Argonauts:

Argiva primum sum transportata¹ carina,
 Ante mihi notum nil, nisi Phasis,² erat.

—*MART. XIII*, 72.

¹A very doubtful bit of lore, as the pheasant may have been indigenous in Greece and Italy. Cf. *Newton, op. cit.*, p. 713; *Hehn, op. cit.*, p. 297.

²Cf. *Juv.* XI, 139. *Scythicae volucres*.

Certain Roman *bon vivant* distinctions:

Ah miseri! quos nosse iuvat, quid Phasidis ales
Distet ab hiberna Rhodopes grue: quis magis anser
Extā ferat: cur Tuscus aper generosior Umbro.

—STAT., *Silv.* IV, 6, 8.

And, nested in the spicy paste, repose
The timid quail, that lately from their haunts
In trepidation scar'd, sulphureous hail
Pursuing, in their eager flight brought down.—M'KINNON.

Pheasants stuffed with spice.—BAYARD TAYLOR.

May canvass-backs and terrapins still be within your means!
May *pheasants* not destroy your taste for homely jowl and
greens!

—GEN. ALBERT PIKE.

Cf. Hor., *Sat.* II, 23.

A princely gift to the people at the amphitheatre:

Inter quae subito cadunt volatu
Immensae volucrum per astra nubes,
Quas Nilus sacer, horridusque Phasis,
Quas udo Numidae legunt sub Austro.
Desunt qui rapiant; sinusque pleni
Gaudent, dum nova lucra comparantur.
Tollunt innumeras ad astra voces.
Saturnalia Principis sonantes.—STAT., *Silv.* I, 6, 75.

The parrot surpasses the pheasant in beauty:

Quem non gemmata volucris Iunonia cauda
Vinceret adspectu, gelidi non Phasidis ales,
Nec quas humenti Numidae rapuere sub Austro.

—STAT., *Silv.* II, 4, 26.

The phoenix has some of the markings of the pheasant:

Effigies inter pavonis mixta figuram
Cernitur et pictam Phasidis inter avem.

—LACT., *De Phoen.* 143.

De Capone Phasianacio.

Candida Phoebeo praefulgunt ora rubore,
Crista riget radiis, ignea barba micat.
Alae colla comae pectus femur inguina cauda
Paestanis lucent floridiora rosis.
Flammea sic rutilum distinguit pinna colorem,
Ut vibrare putes plumea membra faces.

—*Anth. Lat.* 132.

PHOENICOPTERUS. Φοινικόπτερος. Flamingo.

Phoenicopterus antiquorum L.

Scollard: *Flamingos*.

Mentioned in Greek literature only by Arist. [Av. 271], apparently unknown to Aristotle.

American parallel: *P. ruber*. Scarlet flamingo. (Florida and Southern States.)

Then, where of Indian hills the daylight takes
His leave, now might you the flamingo see
Disporting like a meteor on the lakes.

(*Gertrude of Wyoming*.)—THOMAS CAMPBELL.

Campbell's ornithology is here throughout pitched in too southern a key for northern Pennsylvania.

Cf. And every sound of life was full of glee,
From merry *mock-bird's* song, or hum of men.
The *crocodile*, the *condor* of the rock,
Shall be the pastime of thy sylvan wars.

Cf. as a corrective Halleck, *Wyoming*.

Vid. also from Thomas Moore (*Poems relating to America*), these lines, descriptive of the wilderness near Buffalo:

Where the pale witch feeds her snakes,
And the *cayman* loves to creep,
Torpido, to his wintry sleep.

The flamingo (seemingly domesticated) in a Roman farm-yard.

Vagatur omnis turba sordidae chortis,
Argutus anser gemmeique pavones
Nomenque debet quae rubentibus pinnis.

—MART. III, 58, 12.

Vid. Alexander Wilson, op. cit., s. v. Red Flamingo.

Before him like a blood-red flag
The bright flamingo flew.—LONGFELLOW.

Then—o'er the far savannah's utmost bourn—
Flare the wide wings of the flamingo morn!—MIFFLIN.

Nature sent Iris of the rosy plume.—STEDMAN.

Till Dawn, as some fair angel, wide out flings
The rose-meshed pinions of her silent wings
Along the dreaming east.—SYMMES.

The feathers of the flamingo used as a throat irritant to cause vomiting:

Stat exoletus suggeritque ructanti
Pinnas rubentes cuspidesque lentisci.
—MART. III, 82, 8.

The flamingo is named from its bright color, but its tongue is its greatest fame:

Dat mihi pinna rubens nomen, sed lingua gulosis
Nostra sapit. Quid si garrula lingua foret?
—MART. XIII, 71.

Cf. Plin. X, 68. Phoenicopteri linguam praecipui saporis esse, Apicius docuit. Vid. also Thompson, op. cit., s. v.

Some pelican's eggs, a la Cairo,
And fried *phenicopters* on toast.—BEN KING.

The flesh of these birds is esteemed pretty good meat; and the young thought by some equal to that of the partridge; but the greatest dainty is the tongue, which was esteemed by the ancients an exquisite morsel.

—ALEXANDER WILSON, op. cit., s. v. Red Flamingo.

Cf. How the old steeples hand the scarlet,
Till the ball is full,—
Have I the lip of the flamingo
That I dare to tell.—EMILY DICKINSON.

Carvers might practise on huge wooden flamingos at the carving school of Professor Trypherus. Juv. XI, 137.

In Stat., *Silv.* I, VI, 77 (vid. supra s. v. PHASIDIS ALES), Vollmer with considerable probability argues for flamingos as the birds of the 'sacred Nile.'

And the shy flamingo rises like a wingèd oriflamme.
(*Cuba.*) —TROWBRIDGE.

And a great flamingo, winged in flight,
A giant rose in the gloaming light.
(*At the Desert's Marge.*) —SCOLLARD.

Broken, I rust beside this Northern roar
'Mid rocks of desolation and of doom—
I who once dropped through waters filled with bloom
Of lotus-lilies where flamingoes soar
In coves of El Dorado.—MIFFLIN.
(*An old Anchor on the Coast.*)

Radiant, remote and sense-evading,
 They are like a dream o'er which we joyed,
 Flashing on the vision and then fading
 In the golden-blue Egyptian void.
 (*Flamingos.*) —SCOLLARD.

PHOENIX. Φοῖνιξ. The Phoenix.

A mythical bird.

The Fable of the Phoenix. Death. The young. The nest:

Una est, quae reparet seque ipsa reseminet, ales:
 Assyrii phoenica vocant. Non fruge neque herbis,
 Sed turis lacrimis et suco vivit amomi.
 Haec ubi quinque suae complevit saecula vitae,
 Illicet in ramis tremulaeque cacumine palmae
 Unguibus et puro nidum sibi construit ore.
 Quo simul ac casias et nardi lenis aristas
 Quassaque cum fulva substravit cinnama murra,
 Se super imponit finitque in odoribus aevum.
 Inde ferunt, totidem qui vivere debeat annos,
 Corpore de patrio parvum phoenica renasci.
 Cum dedit huic aetas vires, onerique ferendo est,
 Ponderibus nidi ramos levat arboris altae
 Fertque pius cunasque suas patriumque sepulchrum
 Perque leves auras Hyperionis urbe potitus
 Ante fores sacras Hyperionis aede reponit.

—Ov., *Met.* XV, 391.

In Am. II, 6, 51, Ovid portrays the phoenix as living in the Elysian fields of the birds.

For the age of the phoenix vid.:

Alipedem cervum ter vincit corvus, et illum
 Multiplicat novies Phoenix, reparabilis ales.

—*Anth. Lat.* 647, 6.

In the *De Ave Phoenixe* of Lactantius(?), one of the most curious and delightful bird poems in literature, is given a full account of the phoenix. Cf. also Claud., *Idyll.* I. *Phoenix*.

The beautiful grove of the sun, where the phoenix dwells:

Hoc nemus, hos lucos avis incolit unica Phoenix,
 Unica, sed vivit morte refecta sua.

—LACT., *De Phoen.* 31.

The phoenix there welcomes the rising sun with a morning song
unsurpassed by that of nightingales and dying swans:

Tollitur ac summo consedit in arboris altae
Vertice, quae totum despicit una nemus,
Et conversa novos Phoebi nascentis in ortus
Expectat radios et iubar exoriens.
Atque ubi Sol pepulit fulgentis limina portae
Et primi emicuit luminis aura levis,
Incipit illa sacri modulamina fundere cantus
Et mira lucem voce ciere novam,
Quam nec aëdoniae voces nec tibia possit
Musica Cirrhaeis adsimulare modis,
Sed neque olor moriens imitari posse putatur
Nec Cylleneae fila canora lyrae.

—LACT., *De Phoen.* 39.

I mourn not like the swan
That ready is to die,
But with the Phoenix I rejoice,
When she in fire doth fry.

—JOHN WINTHROP (*Duyckinck*).

I struck the sweetest notes on Memnon's lyre,
And quiver'd on the Phoenix' funeral pyre.

—GILMAN (*Kettell*).

Like a Phoenix in the nest
Burned the red sun in the West.

—LONGFELLOW.

Like a Phoenix from its shroud
Came the red sun back again.

—LONGFELLOW.

After a thousand years the phoenix leaves the grove and repairs
to a hidden forest, where in a palm tree it builds its nest and sepulchre
composed of the rarest fragrant shrubs and plants. On this the bird is
consumed by fire, but from the ashes there arises a new phoenix of
wondrous beauty.

Thus in endless cycles passes the life of the phoenix:

Mors illi Venus est, sola est in morte voluptas
Ut possit nasci, appetit ante mori.
Ipsa sibi proles, suus est pater et suus heres,
Nutrix ipsa sui, semper alumna sibi.
Ipsa quidem, sed non eadem est, eademque nec ipsa est,
Aeternam vitam mortis adepta bono.

—LACT., *De Phoen.* 165.

Sparrows when they choose to pair,
Meet their matches anywhere;
But the Phoenix, sadly great,
Cannot find an equal mate.—MAXWELL (Kettell).

That, like the Phoenix, die but to renew.
—CLASON (Griswold).

Like the sole Phoenix in his perfumed nest.
—SARAH HELEN WHITMAN.

The birds greet the phoenix, as it comes to the banks of the Nile for death and resurrection :

Sic ubi fecunda reparavit morte iuventam
Et patrios idem cineres collectaque portat
Unguibus ossa piis Nilique ad litora tendens
Unicus extremo Phoenix procedit ab Euro,
Conveniunt aquilae cunctaeque ex orbe volucres,
Ut solis mirentur avem: procul ignea lucet
Ales, odorati redolent cui cinnama busti.
—CLAUD., *De Cons. Stilich.* II, 414.

Cf. Mart. IX, 11, 4; Plin. XII, 85; Aus., *Idyll.* XI, 15.

The nest of the phoenix is renewed by fire:

Qualiter Assyrios renovant incendia nidos,
Una decem quotiens saecula vixit avis,
Talitur exuta est veterem nova Roma senectam
Et sumpsit vultus praesidis ipsa sui.
—MART. V, 7, 1.

The phoenix builds its nest in the spring time:

Nomen cum violis rosisque natum,
Quo pars optima nominatur anni,
Hyblam quod sapit Atticosque flores,
Quod nidos olet alitis superbae.
—MART. IX, 12, 1.

The treasures of the nest:

Accipe Callaicis quidquid fodit Astur in arvis,
Aurea quidquid habet divitis unda Tagi,
Quidquid Erythraea niger invenit Indus in alga,
Quidquid et in nidis unica servat avis.
—MART. X, 16, 3.

The phoenix rises from the flames:

Senio nec fessus inert
Scandet odoratos phoenix felicior ignes.
—STAT., *Silv.* II, 4, 36.

And stately London, (our Great Britain's glory)
 My raging flame did make a mournful story,
 But maugre all, that I or foes could do,
 That Phoenix from her bed, is risen new.
 (*The Four Elements. Fire*).—ANNE BRADSTREET.

Reviving Norfolk from her ashes springs,
 A golden phoenix on refulgent wings.—BARLOW.
 (*Columbiad*.)

If every age, in new unconscious prime,
 Rose, like a phoenix, from the fires of time,
 To wing its way unguided and alone.—THOMAS MOORE.
 (*Poems relating to America*.)

Out of her ashes let a Phoenix rise
 That may outshine the first and be more wise.
 (*New England's Crisis*.) —BENJAMIN TOMPSON.

This phoenix built her nest of spice,
 Like to the Birds of Paradise;
 Which, when a fever set on fire,
 Her soul took wing and soared higher;
 But left choice ashes here behind,
 Christ will for resurrection find.—NOYES.
 (*A consolatory poem—to Cotton Mather,*
at the death of his wife. 1703.)

Thou art but ashes—dust; no Phoenix thou,
 That, after crumbling on the funeral pyre,
 Rises triumphant by its own bright fire.—STODDARD.

As Phoenix, 'mid consuming flame,
 Takes on new life and upward springs.—WALLACE.
 (*Love*.)

A wicked wag, who meant to deride,
 Called honest John, "Old *Phoenix* Macbride,"
 Because he rose from his ashes.—SAXE.

The resurrection of the phoenix was a hopeful parallel to the early Christians:

Sicut avis Phoenix meditatur a morte renasci,
 Dat nobis exemplum, post funera surgere posse;
 Hoc Deus omnipotens vel maxime credere suadet,
 Quod veniet tempus defunctorum vivere rursum,
 Sint licet nunc pulvis, iaceant licet ossa nudata.

—COMMODOUS, *Carm. Apol.* 139.

Sed tamen ad Manes fœnix me serbat in aura
Qui mecum properat se reparare sibi.

—BÜCHELER, *Carm. Epig.* 1318.

Post flammæ cineresque suos nova surgere fœnix
Scit.

—BÜCHELER, *Carm. Epig.* 1802.

Vita mihi mors est; morior si coepero nasci.

Sed prius est fatum leti, quam lucis origo

Sic solus Manes ipsos mihi dico parentes.

(*Phoenix.*)

—*Anth. Lat.* 286, XXXI.

Th' ostrich with her plumes, th' eagle with her eyn

The phoenix too (if any be) are mine.—ANNE BRADSTREET.

(*The Four Elements. Air.*)

No fabled Phoenix from his bier revives;

His ashes perish, but his Country lives!—R. T. PAINE.

The resurrection of the phoenix associated with the rays of the sun:

Namque docet Phoenix, ustis reparata favillis

Omnia Phœbeo vivescere corpora tactu.

Haec vitam de morte petit, post fata vigorem,

Nascitur ut pereat, perit ut nascatur ab igni,

Una cadit totiens surgitque ac deficit una;

Rupe sedet, capitur radiis, et lumine Phœbi

Suscipit inmissum recidiva morte calorem.

—*Anth. Lat.* 389, 31.

A second Pope, like that Arabian bird

Of which no age can boast but one, may yet

Awake the muse of Schuylkill's stream.—FRENEAU.

And man once more, self-ruin'd Phoenix, rise

On wings of Eden, to his native skies.

(*Greenfield Hills.*)

—TIMOTHY DWIGHT.

Here, Science, thy last stage of being lies,

No other Phoenix from thy dust shall rise—CLIFFTON.

PICA. Κίσσα. Magpie, jay.

P. rustica. Thompson, op. cit., p. 84, takes κίσσα as the jay, *Garrulus glandarius*. *Pica*, as among the Italians of today, seems to have been applied to both magpie and jay. Plin. X, 29, describes the magpie as a recent addition to the birds about Rome.

American parallels: Blue jay, crow, and in the West the magpie. Vid. Alexander Wilson, op. cit., s. v. Magpie.

And stately London, (our Great Britain's glory)
 My raging flame did make a mournful story,
 But maugre all, that I or foes could do,
 That Phoenix from her bed, is risen new.
 (*The Four Elements. Fire*).—ANNE BRADSTREET.

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 Sint licet nunc pulvis, iaceant licet ossa nudata.

—COMMODOUS, *Carm. Apol.* 139.



Radiant, remote and sense-evading,
 They are like a dream o'er which we joyed,
 Flashing on the vision and then fading
 In the golden-blue Egyptian void.
 (*Flamingos.*) —SCOLLARD.

PHOENIX. Φοῖνιξ. The Phoenix.

A mythical bird.

The Fable of the Phoenix. Death. The young. The nest:

Una est, quae reparet seque ipsa reseminet, ales:
 Assyrii phoenica vocant. Non fruge neque herbis,
 Sed turis lacrimis et suco vivit amomi.
 Haec ubi quinque suae complevit saecula vitae,
 Illicet in ramis tremulaeque cacumine palmae
 Unguibus et puro nidum sibi construit ore.
 Quo simul ac casias et nardi lenis aristas
 Quassaque cum fulva substravit cinnama murra,
 Se super imponit finitque in odoribus aevum.
 Inde ferunt, totidem qui vivere debeat annos,
 Corpore de patrio parvum phoenica renasci.
 Cum dedit huic aetas vires, onerique ferendo est,
 Ponderibus nidi ramos levat arboris altae
 Fertque pius cunasque suas patriumque sepulchrum
 Perque leves auras Hyperionis urbe potitus
 Ante fores sacras Hyperionis aede reponit.

—Ov., *Met.* XV, 391.

In Am. II, 6, 51, Ovid portrays the phoenix as living in the Elysian fields of the birds.

For the age of the phoenix vid.:

Alipedem cervum ter vincit corvus, et illum
 Multiplicat novies Phoenix, reparabilis ales.

—*Anth. Lat.* 647, 6.

In the *De Ave Phoenix* of Lactantius(?), one of the most curious and delightful bird poems in literature, is given a full account of the phoenix. Cf. also Claud., *Idyll.* I. *Phoenix*.

The beautiful grove of the sun, where the phoenix dwells:

Hoc nemus, hos lucos avis incolit unica Phoenix,
 Unica, sed vivit morte refecta sua.

—LACT., *De Phoen.* 31.

Emily Dickinson: *The Blue Jay*.

Ben King: *I'm a Blue Jay*.

The nine daughters of Pierus, metamorphosed into magpies, salute Minerva and the nine muses:

Musa loquebatur, pennae sonuere per auras,
Voxque salutantum ramis veniebat ab altis.
Suspicit et linguae quaerit tam certa loquentes
Unde sonent, hominemque putat Iove nata locutum.
Ales erat, numeroque novem, sua fata querentes,
Institerant ramis imitantes omnia picae.

—Ov., *Met.* V, 294.

Changed (not degraded) as a Magpie talk'd.

(*Hamiltoniad.*)

—JOHN WILLIAMS.

A plowman, saluted by a magpie, answers:

Inde salutatus picae respondet arator.

—MART. IX, 54, 9.

Cf. Pica salutatrix si tibi, Lause, placet.

—MART. VII, 87, 6.

Jay-bird tol' me,

Tol' me in the morning.

—CARMAN-HOVEY.

When domesticated he is easily taught to imitate the human voice, and to articulate words pretty distinctly.—ALEXANDER WILSON, *op. cit.*, s. v. Magpie.

The actual metamorphosis of the daughters of Pierus into magpies:

Rident Emathides spernuntque minacia verba,
Conataeque loqui et magno clamore protervas
Intentare manus, pennas exire per ungues
Aspexere suos, operiri bracchia plumis;
Alteraue alterius rigido concrevere rostro
Ora videt, volucresque novas accedere silvis;
Dumque volunt plangi, per bracchia mota levatae
Aëre pendebant, nemorum convicia, picae.
Nunc quoque in alitibus facundia prisca remansit
Raucaque garrulitas studiumque immane loquendi.

—Ov., *Met.* V, 669.

Cf. Stat., *Silv.* II, 4, 19. Sturnus et Aonio versae certamine picae.

But chatt'ring magpies, perching on each spray,
Devoured the blooms or pick'd the fruit away.

—CHATTERTON.

Heard them chattering like the magpies.—LONGFELLOW.

The 'raven poets and poetess pies.' Persius alludes to the literary ladies of his time:

Quis expedit psittaco suum chaere
Picasque docuit verba nostra conari?
Magister artis ingenique largitor
Venter, negatas artifex sequi voces.
Quod si dolosi spes refulserit nummi,
Corvos poetas et poetridas picas
Cantare credas Pegaseum nectar.
—PERS., *Prol.* 8.

Cf. Mart. I, 53, 10.

A magpie comments on the clearness of his speech:

Pica loquax certa dominum te voce saluto:
Si me non videas, esse negabis avem.
—MART. XIV, 76.
Jaybird chattin' wif a bee,
Trying to teach him grammah.—DUNBAR.

Martial complains when a magpie instead of a dove is served to him:

Sunt tibi boleti, fungos ego sumo suillos:
Res tibi cum rhombo est, at mihi cum sparulo.
Aureus immodicis turtur te clunibus implet.
Ponitur in cavea mortua pica mihi.
—MART. III, 60, 5.

De Pica, quae humanas voces imitabatur.
Pica hominum voces cuncta ante animalia monstrat
Et docto externum perstrepat ore melos.
Nec nunc oblita est, quidnam prius esset in orbe:
Aut haec Picus erat aut homo rursus inest.
—*Anth. Lat.* 370.

And the noisy magpies about the gables,
Chattered and gossiped of this and that.—STRONG.

The note and imitative powers of the magpie:

Pica loquax varias concinnat gutture voces,
Scurrili strepitu omne quod audit ait.
—*Anth. Lat.* 762, 32.

Kept by a woman as chipper as a jay.—BRET HARTE.

De Catto qui comedens picam mortuus est.
Mordaces morsu solitus consumere mures
Invisum et domibus perdere dente genus
Cattus in obscuro cepit pro sorice picam
Multiloquumque vorax sorbuit ore caput.

Poena tamen praesens praedonem plectit edacem,
 Nam claudunt rabidam cornea labra gulam.
 Faucibus obsessis vitalis semita cessit
 Et satur escali vulnere raptor obit.
 Non habet exemplum volucris vindicta peremptae.
 Hostem pica suum mortua discruciat.

—*Anth. Lat.* 181.

A later myth:

The magpies fly in pairs (an evil omen
 It were to see but one).—MRS. PIATT.
 (*Early Spring in Ireland.*)

PICUS. Δρυοκολάπτης, κελεός. The green woodpecker. *P. viridis*. Πικώ. The greater and lesser spotted woodpeckers. *P. major* and *minor*. Cf. Aristotle, *H. A.* VIII, 3, 593 and IX, 9, 614. Among the Romans the name *Picus* was applied to all the various species of woodpeckers. The occasional identification of the particular species a Roman poet had in mind is dependent upon descriptive epithets and the weighing of probabilities. The woodpecker is more prominent in the lore of the Romans than in that of the Greeks because of the *Picus* myth and the association with Mars.

Vid. Broderip, *Woodpeckers*. *Fraser* 57, 46.

McManus: *The Flicker on the Fence*.

American parallels: Red-headed woodpecker, yellow-hammer (flicker), (high-hole), et al.

Hic avis est quaedam rubro formosa colore,
 Guttura quae plumis est maculata nigris.
 (*Descriptio Pennsylvaniae*, Anno 1729.)—THOMAS MAKIN.

Translation:

The various woodpeckers here charm the sight;
 Of mingled red, of beauteous black and white!
 (*History of Pennsylvania*, p. 366.)—PROUD.

The *picus* (here) on the left is a good omen, although ominous when he works upon an elm:

Impetritum, inauguratumst; quovis admittunt aves;
 Picus et cornix ab laeva, corvus, parra ab dextera
 Consuadent; certum herclest vostram consequi sententiam.
 Sed quid hoc quod picus ulmum tundit? non temerariumst.
 Certe hercle ego quantum ex augurio eius pici intellego,
 Aut mihi in mundo sunt virgae aut atriensi Saureae.

—PLAUT., *Asin.* 259.

And woodpeckers explore the sides
Of rugged elms.—COWPER.

The vaulting high-ho flings abroad his glee
In fluty laughter from the towering elm.—LAMPMAN.

Naught heard but the tap of the woodpecker's bill.—STREET.

And *Picus minor* plies his trade,
Hunting for dens by insects made;
Knocking off flakes of dropping wood
To pound with his hammer their loathsome brood.—HOSMER.

The robins are the pipers,
The flickers beat the drum.—CRANDALL.
(*The Bird Army.*)

The woodpecker drums on the birch.—TROWBRIDGE.

The woodpecker, with curious bill,
Had made the wilderness reëcho, shrill.—MARKS.

Peckawood erpon de tree
Tappin' lak a hammah.—DUNBAR.

Where the hammering 'red-heads' hopped awry.—RILEY.

And that sassy little critter jes a-pecking all the day.
—RILEY.

And from the frondous pine did ring
The hammer of the golden-wing.—MAURICE THOMPSON.

Above him in the sycamore
The flicker beats a dull tattoo.—MAURICE THOMPSON.

Hear the woodpecker, rap-a-tap!
See him with his cardinal's cap.—MAURICE THOMPSON.

His bill an auger is,
His head, a cap and frill.
He laboreth at every tree,
A worm his utmost goal.
(*The Woodpecker.*) —EMILY DICKINSON.

The crested wood-cocks hammer on high.
(*The Foresters.*) —ALEXANDER WILSON.

Every leaf was at rest, and I heard not a sound
But the woodpecker tapping the hollow beech-tree.
(*Poems relating to America.*) —THOMAS MOORE.

The *picus* (here) on the left is with the *cornix* a bad omen :

Sis licet felix ubicumque mavis,
Et memor nostri, Galatea, vivas,
Teque nec laevus vetet ire picus
Nec vaga cornix.—HOR., *Od.* III, 27, 13.

The Greeks faced the north, the Romans the south, when taking note of birds in augury, hence 'right' and 'left' are frequently confused when the Romans followed the Greek tradition. Cf. Plin. X, 18, 20.

'Tis yon wood-pecker's warning note.
He is their seer and sentinel.—SILL.

For the myth of *Picus*, who, on refusing the advances of Circe, by virtue of his love for Canens, was metamorphosed into a woodpecker, vid. Ov., *Met.* XIV, 320.

The actual metamorphosis of *Picus* :

Ille fugit, sed se solito velocius ipse
Currere miratus: pennas in corpore vidit,
Seque novam subito Latiis accedere silvis
Indignatus avem¹ duro fera robora rostro
Figit et iratus longis dat vulnera ramis;²
Purpureum chlamydis pennae traxere colorem;
Fibula quod fuerat vestemque momorderat aurum,
Pluma fit, et fulvo cervix praecingitur auro,
Nec quicquam antiqui Pico, nisi nomina, restat.
—Ov., *Met.* XIV, 388.

¹Ovid probably had in mind the greater spotted woodpecker, *P. major*.

²A bit of true observation, as so often in Ovid. Cf. Newton, op. cit., p. 1047: "Both of these birds (*P. major* and *P. minor*) have an extraordinary habit of causing, by quickly repeated blows of their beak on a branch, or even on a small bough, a vibrating noise, louder than that of a watchman's rattle, and enough to excite the attention of the most incurious."

Hudson, op. cit., p. 182: "The most curious sound he makes is instrumental: it is the love-call of the bird, produced by striking the beak on a branch so rapidly as to produce a long jarring or rattling note." Vid. supra.

The woodpecker loud hammered.—EMERSON.

The only hammer that I hear
Is wielded by the woodpecker.—LOWELL.

A woodpecker pounded a pine top shell.—MILLER.

Two other descriptions of the metamorphosed Picus :

Ipse Quirinali lituo parvaque sedebat
Succinctus trabea, laevaue ancile gerebat
Picus, equum domitor, quem capta cupidine coniunx
Aurea percussam virga versumque venenis
Fecit avem Circe, sparsit coloribus alas.
—VERG., *Aen.* VII, 187.

Hoc Picus, quondam nomen memorabile ab alto
Saturno, statuit genitor, quem carmine Circe
Exutum formae volitare per aethera iussit
Et sparsit croceum plumis fugientis honorem.
—SIL. ITAL. VIII, 439.

Both Vergil and Silius seem to have *P. major* in mind. Cf Serv. ad loc.

Rhea Silvia in a vision beholds a woodpecker and a she-wolf fighting in defence of two palm trees (Romulus and Remus).

Terreor admonitu, corque timore micat,
Martia, picus, avis gemino pro stipite pugnant
Et lupa. Tuta per hos utraque palma fuit.
—OV., *Fast.* III, 36.

Romulus and Remus, when exposed, were fed by a woodpecker :

Lacte quis infantes nescit crevisse ferino,
Et picum expositis saepe tulisse cibos?
—OV., *Fast.* III, 53.

The name *pici* applied to the fabulous griffins :

Picis divitiis, qui aureos montes colunt,
Ego solus supero.
—PLAUT., *Aul.* 701.

Cf. Non. 2, 641. Picos, veteres esse voluerunt, quos Graeci γρύπας appellant.

I love their orchards where the gay woodpecker
Flits, flashing o'er you, like a wingéd jewel.
(*Old Homes.*) —CAWEIN.

PORPHYRION. Πορφυρώων. Purple gallinule(?).

Porphyrio hyacinthus. Vid. s. v. GALLINULA.

American parallel: Purple gallinule, a rare straggler in the Northern States.

A play upon the name:

Nomen habet magni volucris tam parva gigantis?

Et nomen prasini Porphyriionis habet.

—MART. XIII, 78.

The marsh-hen cried and the tide was ailing
Under the skies of Augustine.—CAWEIN.

PSITTACUS. Ψιττάκη. Parrot.

P. cubicularis. Vid. Thompson, op. cit., p. 199.

American literary parallels: Parrot, parrot, cockatoo.

William Lake: *Fable of the Parrot.*

Ovid's lament over the dead parrot is one of the most graceful and tender bird poems ever written. It must be read in the ancient spirit, with its mingling of nature and human characteristics. The *Psittacus* of Statius is vastly less attractive. Greek literature shows no parallel. In English one is apt to recall Cowper's *Elegy to the Bullfinch*; Keat's *Ode to the Nightingale*, and Wordsworth's *Ode to the Cuckoo*. The American poets have always turned to our native birds. In addition to the specific titles given under each Roman species, wherever there seemed to be certain points of resemblance, the following unattached titles will show the wide range covered by our own poets. The list is of course only representative.

Stoddard: *The Albatross.*

Holmes: *My Aviary.*

Dana: *The little Beach-bird.*

Aldrich: *The Bluebird.*

Akers: *The Bobolink.*

Hill: *The Bobolink.*

Stedman: *The Songster* (Canary).

Gallagher: *The Cardinal Bird.*

Venable: *My Catbird.*

Anon.: *To the Catbird.*

Goodrich: *Birth-night of the Humming-birds.*

Clarke, Tabb, Murray: *The Humming-bird.*

Street: *The Loon.*

Burroughs: *To the Lapland Longspur.*

Roberts: *The Night-hawk.*

Flagg: *The O'Lincoln Bird.*

Fawcett: *To an Oriole.*

Howells: *The Song of the Oriole.*

Bolles: *The Oven-bird.*

Trowbridge: *The Pewee.*

Hathaway: *Phebe.*

Lathrop: *The Phoebe-bird.*

Stratton: *The Robin's Madrigal.*

Chadwick: *The Golden-robin's Nest.*

Doane: *Robin Red-breast.*

Thaxter: *The Sandpiper.*

Mason, Benton: *The Scarlet Tanager.*

Hathaway: *Snow-bird.*

Lampman: *Snowbirds.*

Roberts: *A Secret Song (Snow-bird).*

Payne: *The Southern Snow-bird.*

Lampman: *The Warbling Vireo.*

Bryant: *To a Waterfowl.*

The first poetic list of American birds:

Of Birds, there is a knavish robbing crew,
Which constantly the smaller tribes pursue;
The hawk and eagle swoop the azure blue,
With sharp eyes prying.

The chicken saker-hawk, with talons fell;
The sparrow-hawk; the vigilant castrel
Watching his enemy, till he may reel
And faint in flying.

The duck, the goose, the turkey, the proud swan,
The diver and the heron and the crane,
The snipe, the curlew, merlin and moorhen,
The foremost vieing;

The dove and pheasant, thievish blackbird, quail;
The widgeon, which an epicure may hail;
The teal and bob-o'-lincoln, all avail
For man's enjoyment.

But names are wanting wholly to explain
The numerous species of the feathered train;
And surely the recital were a vain

Misspent employment.—JACOB STEENDAM.
(*Tlof van Niur-Nederland, 1661.*)

Translated by Henry C. Murphy, 1861.)

PORPHYRION. Πορφυριών. Purple gallinule(?).

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The diver and the heron and the crane,
The snipe, the curlew, merlin and moorhen,
The foremost vieing;

The dove and pheasant, thievish blackbird, quail;
The widgeon, which an epicure may hail;
The teal and bob-o'-lincoln, all avail

For man's enjoyment.

But names are wanting wholly to explain
The numerous species of the feathered train;
And surely the recital were a vain

Misspent employment.—JACOB STEENDAM.

(*Tlof van Niuv-Nederland, 1661.*

Translated by Henry C. Murphy, 1861.)

PORPHYRION. Πορφυριών. Purple gallinule(?).

Porphyrio hyacinthus. Vid. s. v. GALLINULA.

American parallel: Purple gallinule, a rare straggler in the Northern States.

A play upon the name:

Nomen habet magni volucris tam parva gigantis?

Et nomen prasini Porphyronis habet.

—MART. XIII, 78.

The marsh-hen cried and the tide was ailing
Under the skies of Augustine.—CAWEIN.

PSITTACUS. Ψιττάκη. Parrot.

P. cubicularis. Vid. Thompson, op. cit., p. 199.

American literary parallels: Parrot, parroquet, cockatoo.

William Lake: *Fable of the Parrot.*

Ovid's lament over the dead parrot is one of the most graceful and tender bird poems ever written. It must be read in the ancient spirit, with its mingling of nature and human characteristics. The *Psittacus* of Statius is vastly less attractive. Greek literature shows no parallel. In English one is apt to recall Cowper's *Elegy to the Bullfinch*; Keat's *Ode to the Nightingale*, and Wordsworth's *Ode to the Cuckoo*. The American poets have always turned to our native birds. In addition to the specific titles given under each Roman species, wherever there seemed to be certain points of resemblance, the following unattached titles will show the wide range covered by our own poets. The list is of course only representative.

Stoddard: *The Albatross.*

Holmes: *My Aviary.*

Dana: *The little Beach-bird.*

Aldrich: *The Bluebird.*

Akers: *The Bobolink.*

Hill: *The Bobolink.*

Stedman: *The Songster* (Canary).

Gallagher: *The Cardinal Bird.*

Venable: *My Catbird.*

Anon.: *To the Catbird.*

Goodrich: *Birth-night of the Humming-birds.*

Clarke, Tabb, Murray: *The Humming-bird.*

Street: *The Loon.*

Burroughs: *To the Lapland Longspur.*

Roberts: *The Night-hawk.*

Flagg: *The O'Lincoln Bird.*

Fawcett: *To an Oriole.*

Howells: *The Song of the Oriole.*

Bolles: *The Oven-bird.*

Trowbridge: *The Pewee.*

Hathaway: *Phebe.*

Lathrop: *The Phoebe-bird.*

Stratton: *The Robin's Madrigal.*

Chadwick: *The Golden-robin's Nest.*

Doane: *Robin Red-breast.*

Thaxter: *The Sandpiper.*

Mason, Benton: *The Scarlet Tanager.*

Hathaway: *Snow-bird.*

Lampman: *Snowbirds.*

Roberts: *A Secret Song* (Snow-bird).

Payne: *The Southern Snow-bird.*

Lampman: *The Warbling Vireo.*

Bryant: *To a Waterfowl.*

The first poetic list of American birds:

Of Birds, there is a knavish robbing crew,
Which constantly the smaller tribes pursue;
The hawk and eagle swoop the azure blue,
With sharp eyes prying.

The chicken saker-hawk, with talons fell;
The sparrow-hawk; the vigilant castrel
Watching his enemy, till he may reel
And faint in flying.

The duck, the goose, the turkey, the proud swan,
The diver and the heron and the crane,
The snipe, the curlew, merlin and moorhen,
The foremost vieing;

The dove and pheasant, thievish blackbird, quail;
The widgeon, which an epicure may hail;
The teal and bob-o'-lincoln, all avail
For man's enjoyment.

But names are wanting wholly to explain
The numerous species of the feathered train;
And surely the recital were a vain

Misspent employment.—JACOB STEENDAM.
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Ovid's lament at the death of a parrot, which he had given Corinna. The poet summons all good birds to the parrot's obsequies:

Psittacus, Eois imitatrix ales ab Indis,
 Occidit: exsequias ite frequenter, aves;
 Ite, piae volucres, et plangite pectora pinnis
 Et rigido teneras ungue notate genas;
 Horrida pro maestis lanietur pluma capillis.
 Pro longa resonent carmina vestra tuba!
 —Ov., *Am.* II, 6, 1.

Note throughout Ovid's poem the human attributes assigned to the birds.

Hark to my Indian beauty—
 My cockatoo, creamy white,
 With roses under his feathers
 That flash across the light.—STORY (Stedman).

Before all others is summoned the affectionate turtle-dove, whose friendship for the parrot was comparable to that of Pylades for Orestes:

Omnes, quae liquido libratis in aere cursus,
 Tu tamen ante alios, turtur amice, dole!
 Plena fuit vobis omni concordia vita,
 Et stetit ad finem longa tenaxque fides.
 Quod fuit Argolico iuvenis Phoeus Orestae,
 Hoc tibi, dum licuit, psittice, turtur erat.
 —Ov., *Am.* II, 6, 11.

Cf. Ov., *Her.* XV, 38. Et niger a viridi turtur amatur ave.
Viridi ave is here, of course, the parrot.

On her hand a parrot green.—HOLMES.

Of pea-green paraquets 'twixt neighbor trees.—LANIER.

The beauty of the parrot and his powers of mimicry and speech:

Quid tamen ista fides, quid rari forma coloris,
 Quid vox mutandis ingeniosa sonis?
 Quid iuvat, ut datus es, nostrae placuisse puellae?
 Infelix, avium gloria, nempe iaces!
 Tu poteras fragiles pinnis hebetare zmaragdos
 Tincta gerens rubro Punica rostra croco.
 Non fuit in terris vocum simulantior ales.
 Reddebas blaeso tam bene verba sono!
 —Ov., *Am.* II, 6, 17.

Occidit illa loquax, humanae vocis imago,
 Psittacus, extremo munus ab orbe datum!
 —Ov., *Amor.* II, 37.

In plumes of gold and array'd in red.—MILLER.

Hung all red-crowned and robed in green,
With belts of gold and blue between.—MILLER.

To me a painted paroquet
Hath been a most familiar bird.—POE.

Brighter plumes may greet the sun
By the banks of Amazon.—HILL.

That bright-wing'd paroquet.—SIGOURNEY.

Over the curtained door Simorga sits,
The Bird of Ancient Days, whose wondrous green
Was caught from glimmering shades in tropic bower
Where first his eyes were opened to the day:
A bird mysterious, who climbs and speaks
And laughs and stretches out a hand like one
Of human kind.—MRS. J. G. SMITH.

Strange birds like the cockatoos, lories,
Spread wings, like great blossoms, illumed.—CAWEIN.

The parrot needed but little for sustenance. He talked so much that he had little time for feasting.

Plenus eras minimo nec prae sermonis amore
In multos poteras ora vacare cibos;
Nux erat esca tibi causaeque papavera somni,
Pellebatque sitim simplicis umor aquae.

—Ov., *Am.* 6, 29.

The last words of the dying parrot:

Nec tamen ignavo stupuerunt verba palato:
Clamavit moriens lingua, 'Corinna, vale!'

—Ov., *Am.* II, 6, 47.

A description of the Elysian grove, where the souls of the birds that are blessed consort:

Colle sub Elysio nigra nemus ilice frondet,
Undaque perpetuo gramine terra viret:
Siqua fides dubiis, volucrum locus ille piarum
Dicitur, obscenae quo prohibentur aves;
Illic innocui late pascuntur olores
Et vivat phoenix, unica semper avis:
Explicat ipsa suas ales Iunonia pinnas,
Oscula dat cupido blanda columba mari.
Psittacus has inter nemorali sede receptus
Convertit volucres in sua verba pias.

—Ov., *Am.* II, 6, 49.

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Psittacus has inter nemorali sede receptus
Convertit volucres in sua verba pias.
—Ov., *Am.* II, 6, 49.

Where spirit-birds may fold their wings
 Within Elysian portal,
 And gleaners of divinest things
 May gather sweets immortal.—BRIDGE.

The parrot's grave and burial inscription :

Ossa tegit tumulus, tumulus pro corpore magnus,
 Quo lapis exiguus par sibi carmen habet:
 "Colligor ex ipso dominae placuisse sepulcro,
 Ora fuere mihi plus ave docta loqui."
 —Ov., *Am.* II, 6, 59.

Another funeral poem, in honor of a parrot which belonged to Melior, a friend of Statius. How the parrot spent his last day and night :

Psittace, dux volucrum, domini facunda voluptas,
 Humanae sollers imitator, psittace, linguae,
 Quis tua tam subito praeclusit murmura fato?
 Hesternas, miserande, dapes moriturus inisti
 Nobiscum et gratae carpentem munera mensae
 Errantemque toris mediae plus tempore noctis
 Vidimus. Adfatus etiam meditataque verba
 Reddideras. At nunc aeterna silentia Lethes
 Ille canorus habes. Cedat Phaethontia vulgi
 Fabula: non soli celebrant sua funera cygni.
 —STAT., *Silv.* II, 4, 1.

Birds with the gift of speech are summoned to the funeral :

Huc doctae stipentur aves, quis nobile fandi
 Ius Natura dedit: plangat Phoebeius ales¹
 Auditasque memor penitus dimittere voces
 Sturnus et Aonio versae certamine picae
 Quique refert iungens iterata vocabula perdix²
 Et quae Bistonio queritur soror orba cubili:
 Ferte simul gemitus cognataque ducite flammis
 Funera et hoc cunctae miserandum addiscite carmen.
 —STAT., *Silv.* II, 4, 16.

Cf. Plin. X, 117, 120, 121, 124; Apul., *Flor.* II; Manil. V, 379.

A description of the parrot. His powers of speech. His last rites and the words uttered by the birds at his funeral :

¹The raven.

²The reading *cornix* is attractive (cf. Plin. X, 124 et al.), but *quique* is then of course impossible.

Occidit aeriae celeberrima gloria gentis
 Psittacus, ille plagae viridis regnator Eoae,
 Quem non gemmata volucris¹ Iunonia cauda
 Vinceret aspectu, gelidi non Phasidis ales²
 Nec quas³ humenti Numidae rapuere sub austro,
 Ille saluator regum nomenque locutus
 Caesareum et queruli quondam vice functus amici,
 Nunc conviva levis monstrataque reddere verba
 Tam facilis, quo tu, Melior dilecte, recluso
 Numquam solus eras. At non inglorius umbris
 Mittitur: Assyrio cineres adolentur amomo
 Et tenues Arabum respirant gramine plumae
 Sicaniisque crocis, senio nec fessus inert
 Scandet odoratos Phoenix felicior ignes.

—STAT., *Silv.* II, 4, 24.

Or leave me here as now,
 Bill, parrot-like and old with cracked voice, harping, screeching.

—WHITMAN.

That screaming parrot makes my blood run cold.—MOODY.

Other references to the parrot and his powers of speech:

Quis expedit psittaco suum *chaere*,
 Picasque docuit verba nostra conari?
 Magister artis ingenique largitor
 Venter, negatas artifex sequi voces.

—PERS., *Prol.* 8.

Greek was the language of small talk, love talk, parrot talk.

—GILDERSLEEVE.

Voce ut loquatur psittacus coturnicis
 Et concupiscat esse Canus ascaules?

—MART. X, 3, 6.

Psittacus a vobis aliorum nomina discam:

Hoc didici per me dicere, *Caesar. Have.*

—MART. XIV, 73.

Iudice me cynus et garrula cedat hirundo,
 Cedat et inlustri psittacus ore tibi.

—*Anth. Lat.* 658, 19.

Psittacus humanas depromit voce loquelas

Atque suo domino *chaere* sonat vel *ave*.

—*Anth. Lat.* 762, 31.

¹The peacock.

²The pheasant.

³The guinea-fowl.

Cf. Macaw; and gold-green parrot, human-tongued,
For craft and wit prediction famed of yore.—BAILEY.

Behind us at our evening meal
The gray bird ate his fill,
Swung downward by a single claw,
And wiped his hooked bill.—WHITTIER.

QUERQUEDULA. Κερκουρίς and κερκιθαλλίς have been assumed as possible originals for the *cerceris* in Varr., *L. L.* V, 79.

Cf. Keller, *Lateinische Volksetymologie*, p. 52.

Κερκήδης, as a gloss, also occurs.

Vid. Thompson, op. cit. s. v. v. Νήττα, βοσκάς, and γλαύκιον.

The *querquedula* is probably the Teal (*Anas crecca*) or the Garganey (*Anas querquedula*). Cf. Gesner, op. cit., p. 103. "Easdem omnino Ferrariae in Italia rustici qui in foro vendebant, nomen interroganti mihi *scavolos* et *cerceuolos* (quasi *querquedulas*) appellarunt. Mediolani audio *garganello* dici, quod nomen aliqui etiam aliis anatibus aut mergis improprie tribuant. Eliota Anglus *querquedulas* interpretatur *teale*."

American parallel: Teal.

He told how teal and loon he shot.—WHITTIER.

Above the marshy islands flew
The green teal and the swift curlew.—MAURICE THOMPSON.

A possible reference to the fall migration of the *querquedulae*:

Et ratione
Aut frigidis nimbos cito ac caduciter ruentis
Pertimuerunt aquatilis querquedulae natantes.
—VARR., *Men.* 576.

The teal and mallard wanton o'er the flood.—ALSOP.

O Nature! gentle is thy might:—
Thy action is repose;—the Eagle's flight
Is tranquil as the teal that sails so light
The hill-defended tarn.—BROWN.

REGULUS. Τροχίλος and probably ὄρχιλος, βασιλεύς. Wren.

Troglodytes europæus or *Regulus cristatus*.

American parallels: Wren, kinglet, king-bird.

Alexander Wilson: *The Disconsolate Wren*.

Henry Van Dyke: *The Ruby-Crowned Kinglet*.

It is noteworthy that the wren, although one of the most observable and sociable of the smaller birds and about which much later lore has collected, seems to have touched the ancient poets scarcely at all. This is due, as in several other cases, largely to the fact that no great metamorphosis myth with the wren gained popular acceptance.

Cf. int. al. Newton, op. cit., p. 1050. The myth of the wren as 'King of all the birds' is post-classical.

The fire-crowned king of the wrens,
From out the pines.—TENNYSON.

I'll be king of the queen of the wrens
And all in a nest together.—TENNYSON.

Where's your kingdom, little king?
Where the land you call your own,
Where your palace and your throne?
Fluttering lightly on the wing
Through the blossom-world of May,
Whither lies your royal way,
Little king?—HENRY VAN DYKE.

The wren's song is like that of the bee-eater and swallow:

Regulus atque merops et rubro pectore progne
Consimili modulo zinzizulare sciunt.
—*Anth. Lat.* 762, 43.

Sibilous shivering voice.
(*Wood-wren.*) —GILBERT WHITE of Selborne.

For other references vid. Plin. VIII, 37; Plin., *Ep.* I, 5, 14.

Then came the wren with carols gay,
The custom'd roof and porch to greet.
(*Frontenac, Canadian Spring.*)—STREET.

There are notes of joy from the hang-bird and wren.
—BRYANT.

When first the wren
Was heard to chatter.—BRYANT.

There's the hum of the bee and the chirp of the wren.
—BRYANT.

The wren
Comes twittering from his brushy den.
—MAURICE THOMPSON.

And from his pigmy house the wren looked out.
—BAYARD TAYLOR.

Wrens sing all the winter through: frost excepted.
—GILBERT WHITE of Selborne.

RUSTICA. Σκολόπαξ and ἀσκαλώπας. Woodcock.
Scolopax rusticula.

American parallels: Woodcock, snipe.

A table bird. Compared with the partridge:

Rustica sim an perdix, quid refert, si sapor idem est?
Carior est perdix. Sic sapit illa magis.
—MART. XIII, 76.

The seasons send
Their wildest wanderers: the secret snipe,
That on the borders of the slimy field
Sucks up its draining juice.—M'KINNON.

The woodcock in his moist retreat,
Heard not the falling of their feet.—HOSMER.

Bubbling within some basin green
So fringed with fern, the woodcock's bill
Scarce penetrates the leafy screen.—STREET.

SCOLOPAX. Σκολόπαξ and ἀσκαλώπας. Woodcock.
Scolopax rusticula.

American parallels: Woodcock, snipe.

A striking description of the appearance and feeding habits of the
bird:

Cum nemus omne suo viridi spoliatur honore,
 Fultus equi niveis silvas pete protinus altas
 Exuviis: praeda est facilis et amoena scolopax.
 Corpore non Paphiis avibus maiore videbis
 Illa sub aggeribus primis, qua proluit humor,
 Pascitur, exiguos sectans obsonia vermes.
 At non illa oculis, quibus est obtusior, etsi
 Sint nimium grandes, sed acutis naribus instat;
 Impresso in terram rostri mucrone sequaces
 Vermiculos trahit et vili dat praemia vitae.

—NEMES.(?), *Anth. Lat.* 884.

For discussion of authorship vid. *Rhen. Mus.* 52, p. 457.

Tread softly now, Carlo! The woodcock is here;
 He rises—his long bill thrust out like a spear.—STREET.

When but a brown snipe flutters by
 With rustling wing and piping cry.—MAURICE THOMPSON.

The woodcock whirrs by bush and brake.
 —BROWNELL.

The lonely snipe
 O'er marshy fields, high in the dusky air
 Invisible, but with faint, tremulous tones,
 Hovering or playing o'er the listener's head.—WILCOX.

From yon grove the woodcock rises,
 Mark her progress by her notes;
 High in air her wings she poises,
 Then like lightning down she shoots.
 —BLEECKER (Kettell).

As thick as pine trees in the wood,
 Or snipes on Jersey shore.
 (*Eolopoesis.*) —BIGELOW(?).

The snipe darts from it like an arrow.—STREET.
 And the tilting snipe stood fearless of the truants wayward cry
 And the splashing of the swimmer, in the days gone by.
 —RILEY.

Watch the snipes and killdees foolin' half the day.—RILEY.

Or give me the marsh, with the brown snipe aflush,
 And my gun's sudden flashes and resonant din.
 —MAURICE THOMPSON.

When but a brown snipe flutters by
 With rustling wing and piping cry.—MAURICE THOMPSON.

SPINTURNICIUM. Σπινθαρίς An unknown bird. Possibly one of the smaller owls.

A comparison, which seems to suggest the habits of an owl:

Pithecium haec est prae illa et spinturnicium
Viden tu illam oculis venaturum facere atque aucupium
auribus? —PLAUT., *Mil. Glor.* 989.

Cf. Fest. 330. Spinthurnix est avis genus turpis figurae, ea Graece dicitur, ut ait Santra, σπινθαρίς. Vid. also Plin. X, 13, 17; Baehrens, *P. L. M.*, p. 52.

Whippoorwill and owlet-things,
Whose far call before you brings
Wonder-worlds of happenings.—CAWEIN.

STRIX. Στρίξ, et al. An Owl. Exact species indeterminate. Vid. Plin. XI, 95.

Cawein: *The Owlet.*

A bit of folklore combining references to harpies, witches and night owls, with some description of the latter, a derivation and an incantation:

Sunt avidae volucres, non quae Phineia mensis
Guttura fraudabant, sed genus inde trahunt:
Grande caput, stantes oculi, rostra apta rapinis,
Canities pinnis, unguibus hamus inest.
Nocte volant puerosque petunt nutricis egentes
Et vitiant cunis corpora rapta suis.

Est illis strigibus nomen, sed nominis huius
Causa, quod horrenda stridere nocte solent.
Sive igitur nascuntur aves seu carmine fiunt
Naeniaque in volucres Marsa figurat anus:

'Noctis aves, extis puerilibus,' inquit
Parcite: 'pro parvo victima parva cadit.
Cor pro corde, precor, pro fibris sumite fibras.
Hanc animam vobis pro meliore damus.'

—Ov., *Fast.* VI. 131 ff.

Cf. Ov., *Am.* I, 8, 13; Prop. IV, 5, 17.

The *strix* in magic and incantations:

Iubet sepulcris caprificos erutas,
 Iubet cupressos funebres,
 Et uncta turpis ova ranae sanguine,
 Plumamque nocturnae strigis.
 —HOR., *Epod.* V, 17.

Addit et exceptas luna pernocte pruinas
 Et strigis infamis ipsis cum carnibus, alas.
 —OV., *Met.* VII, 268.

Illum turgentis ranae portenta rubetae
 Et lecta exuctis anguibus ossa trahunt,
 Et strigis inventae per busta iacentia plumae,
 Cinctaque funesto lanea vitta viro.
 —PROP. III, 6, 27.

Maestique cor bubonis, et raucae strigis
 Exsecta vivae viscera. —SEN., *Med.* 733.

A nest of vipers, mix'd with adders foul;
 The screeching night-bird, and the greater owl.
 (*The Anarchiad.*) —HUMPHREYS, BARLOW, HOPKINS,
 TRUMBULL.

Serpents and caw-caws and bats,
 Screech-owls and crickets and adders—
 These were the guides of that witch
 Through the dank deeps of the forest.—FIELD.

The screech-owl's voice makes wild the breeze.
 Mourn, mourn, thou feathered witch
 Above the frozen ditch!—CAWEIN.
 (*Nature-Notes.*)

The accursed birds of Hades:

Palus inertis foeda Cocyti iacet;
 Hic vultur, illic luctifer bubo gemit,
 Omenque triste resonat infaustaeque strigis:
 Horrent opaca fronde nigrantes comae,
 Taxo imminente, quam tenet segnis Sopor.
 —SEN., *Herc. Fur.* 686.

Nor barking Satyrs breathe, nor dreary clouds
 Exhaled from Styx, their dismal drops distill
 Within these fairy, flowery fields, nor shrouds
 The screeching night raven, with his shady quill.
 —JOHN ROGERS.

Where once was nought but desert, howling,
 And swamps, scarce fit to pasture owl in.—FESSENDEN.

Within, the screech-owl made her mournful home,
And birds obscene that hover round the tomb.

—ALSOP.

With thrilling shrieks his dirge the Death-owl sings,
And birds ill-omen'd flap their dusky wings.—ALSOP.

With thee to guide my steps I'll creep
In some old haunted nook to sleep,
Lull'd by the dreary night-bird's scream,
That flits along the wizard stream,
And there, till morning 'gins appear,
The tales of troubled spirits hear.—CLIFFTON.

It is a wild, a fearful spot,
And sinless birds they love it not.—HOSMER.

The owlet hoots;
A voice that shivers as with fear,
That cries in fear:
"Who is it, who is it, who?"
Who creeps with his glow-worm crew
Above the mire
With a corpse-light fire,
As only dead men do?
"Who, who, who!"
Who is it, who is it, who?"
(*The Owlet.*) —CAWEIN.

A yewtree in Hades the abode of the accursed birds:

*Dextra vasta comas nemorosaque brachia fundit
Taxus, Cocyti rigua frondosior unda.
His dirae volucres pastusque cadavere vultur
Et multus bubo ac sparsis strix sanguine pennis
Harpyiaequae foveant nidos atque omnibus haerent
Condensae foliis; saevit stridoribus arbor.*

—SIL. ITAL. XIII, 595.

Another accursed tree with the same birds:

*Illa dedit turpes raucis bubonibus umbras
Vulturis in ramis et strigis ova tulit.*

—OV., *Am.* I, 12, 19.

Deep thro' the turnings of a darksome vale,
Where blasted trunks hung from th' impending steep,
Where oft was heard the owl's wild dreary wail.

—ALEXANDER WILSON.

Was it the owl, the koko-koko,
Hooting from the dismal forest?—LONGFELLOW.

The ill-omened note of the *strix*:

Hanc volitent animae circum sua fata querentes
Semper, et e tectis strix violenta canat.
—TIB. I, 5, 51.

Omenque triste resonat infaustae strigis.
—SEN., *Herc. Fur.* 688.

Resounding with the sad noises of the night owl.—WHITMAN.

Wail, wail, thou bird of ill omén,
Within thy freezing glen!
Screech, screech through all the frosty night
Where gleams the cold moonlight!
(*Nature-Notes.*) —CAWEIN.

Quod trepidus bubo, quod strix nocturna queruntur.
—LUC. VI, 686.

Monstra volant, dirae strident in nube volucres
Nocturnaeque gemunt striges et feralia bubo
Damna canens.
—STAT., *Theb.* III, 510.

Strix nocturna sonans et vespertilio stridunt.
—ANTH. LAT. 762, 39.

And bat and owl above his head
From out their gloomy caverns swing.—MILLER.

The bat and owl inhabit these.—LOWELL.

STURNUS. Ψάρ. Starling.

Sturnus vulgaris.

American parallels: The meadow-lark, red-winged blackbird, and the rusty and purple grackles furnish some points of contact as to habits and folk observation.

Cf. Holbrook, op. cit., p. 280 for comparison of Dante, *Inf.* V, 31 and Verg., *Aen.* VI, 308 (cf. Plin. X, 24; Hudson, op. cit., p. 156).

The bird commonly called the Meadow Lark with us is more nearly related to the Starling of this country (England) than to any other bird. I was particularly surprised that a low note, resembling the noise made by a wheel not well greased, was precisely the same in both, that the style

of their walk and gait was also precisely alike, and that in short flights the movement of the wings had the same tremulous action before they alighted.—AUDUBON, *Journal*, vol. I, p. 24.

The spring song of the paltry starling:

Nunc sturnos inopes fringillorumque querellas
Audit et arguto passere vernat ager.

—MART. IX, 55, 7.

A list of harmful birds:

Non sturnus mihi graculusve raptor
Aut cornix anus aut aquosus anser
Aut corvus nocuit siticulosus:
Sed quod carmina pessimi poetae
Ramis sustineo laboriosis.—*Priap.* LXI, 10.

The farmers' planted fields forlorn,
Will make a poor return of corn,
And thievish birds wax fat, I fear,
Since all the scarecrows volunteer.—READ.

This done, behold,
The hideous shape is throned upon the field!
A figure built awry, with outstretched arms,
And, like a drunken maudlin, in the wind
Flutters its rags, and frightens the pilfering crow.—READ.

Next the dawn
Falls gray and indistinct, upon a shape
Gaudily decked within the cornfield's midst,
Nodding its limbs to every breath of air.
The crow commander, from the hemlock's top,
Eyes the strange form askance; from greater height
Still looks, and as the object yet remains,
Leads off his legions to the neighboring field.—STREET.

Men think, grim wight, his rags affright
The wingèd thieves from root and ear;
But on his hat pert sparrows light—
Crows have been friends too long to fear!—CANTON.

The starling as one of the talking birds:

Huc doctae stipentur aves, quis nobile fandi
Ius Natura dedit: plangat Phoebeius ales
Auditasque memor penitus dimittere voces
Sturnus et Aonio versae certamine picae.
—STAT., *Silv.* II, 4, 16.

Cf. Plin. X, 59. Habebant Caesaris iuvenes sturnum, etiam lusciniās, Graeco atque Latine sermone dociles. Vid. also Aul. Gell. XIII, 20.

The song of the starling:

Dum turdus trucilat, sturnus tunc pusitat ore,
Sed quod mane canunt, vespere non recolunt.
—*Anth. Lat.* 762, 17.

STYMPHALIDES. Στυμφαλίδες. Stymphalian birds.

Mystical birds. For description and astronomical interpretation vid. Thompson, op. cit. s. v.

The slaying of the Stymphalian birds by Hercules:

En cernite, urbes, cernite ex illo Hercule
Quid iam supersit. Herculem agnoscis, pater?
Hisne ego lacertis colla Nemeaei mali
Elisa pressi? Tensus hac arcus manu
Astris ab ipsis detulit Stymphalidas?
—*SEN., Herc. Oct.* 1233.

Cf. Mart. IX, 101, 7. Stymphalidas astris abstulit.

Has hydra sensit, his iacent Stymphalides
Et quidquid aliud eminus vici malum.
—*SEN., Herc. Oct.* 1650.

Solitasque pennis condere obductis diem
Petit ab ipsis nubibus Stymphalidas?
—*SEN., Her. Fur.* 243.

Vidit Hyppolyte ferox
Pectore e medio rapi
Spolium, et sagittis
Nube percussa Stymphalis alto
Decidit caelo.—*SEN., Ag.* 847.

Cf. Verg., *Aen.* XI, 580; Sen., *Herc. Oct.* 17; Claud., *De R. P.* II, *Praef.* 37; *Anth. Lat.* 641, 5.

No leaden thunder strikes the fowl in air,
Nor from my shaft the winged death do fear.
(*An invitation into the country,* —JANE TURELL (Kettell).
in imitation of Horace.)

An eagle, sailing with sunward ken,
Receives from the heartless archer's bow
The envious arrow winged from below.—*READ.*

Your arrow stays the eagle's flight no more.—SIGOURNEY.

The untamed eagles whom a shaft had brought
From highest heaven to her sandal'd feet.—SUTHERLAND.

And told her how the deadly instrument
Had brought to earth the fleetest footed deer
And birds that seem'd a speck against the sky.
—SUTHERLAND.

But suddenly, from unseen hand
In thicket hid, an arrow sped,
The noblest and the fairest bird
Fell from the sunlight, dead.—MACE.

My rifle for thy feast shall bring,
The wild swan from the sky.—BRYANT.

She swam the lake or climbed the tree,
Or struck the flying bird in air.—WHITTIER.

The feathers of a Stympthalian bird used by Medea in an incantation:

Reliquit istas invio plumas specu
Harpyia, dum Zeten fugit.
His adice pinnae sauciae Stympthalidos
Lenaea passae spicula.—SEN., *Med.* 781.

Cf. Hyg. XXX. Aves Stympthalides in insula Martis quae emissis pennis suis iaculabantur sagittis interfecit.

Serv. ad Verg., *Aen.* VIII, 300. Stympthalides aves, quae alumnae Martis fuisse dicuntur, quae hoc periculum regionibus inrogabat, quod, cum essent plurimae volantes, tantum plumarum stercorumque de se emittebant, ut homines et animalia necarent, agros et semina omnia co-operirent.

Jocasta prays that she may be borne away by a Stympthalian bird:

Quis me procellae turbine insano vehens
Volucer per auras ventus aetherias ager?
Quae Sphynx vel atra nube subtexens diem
Stympthalis avidis praepetem pennis feret?
—SEN., *Phoen.* 420.

Cf. Sen., *Herc. Oet.* 1390. Hinc feris clangoribus, Aetheria me Stympthalis.

TERRANEOLA. Ground-bird. Possibly the lark, *κορυδαλός*.
Exact identification of course impossible.

American parallels: Ground-bird, ground-sparrow.

Larcom: *The Field-Sparrow*.

A bit of folk bird nomenclature:

Avis, quam dicunt terraneolam rustici,
In terra nidum quia imponit scilicet.

—PHAED., *Fab. Nov.* XXX.

Where the ground-bird nests in the warm green shade.

—STRONG.

Nod o'er the ground-bird's nest.—BRYANT.

And, by the little ground-bird's nest,

He lays him down to sleep.—SARAH HELEN WHITMAN.

TETRAX. Τέτραξ. Identification doubtful.

The description in Athen. IX, (c. 58) 398, *c-f* seems to apply most closely to the Guinea-fowl. Cf. Thompson, op. cit. s. v. In the passage below the *tetrax* is taken (with a fair degree of probability) as the Capecallie (*Tetrao urogallus*) by Longolius, op cit., but as a kind of Bustard by Gesner, op cit. s. v., who however emends *dorsum* in line twelve to *collum*. Ihm (*Rhein. Mus.* 52, p. 454 ff.) following Longolius, does not seem to me to have made good his contention that both the Tetrax and the Scolopax (vid. sup. s. v., *Anth. Lat.* 883, 884) are from Nemesianus. Both fragments seem curiously late in tone and view-point.

The trapping of the *tetrax* with some description of the bird and its habits:

Et tetracem, Romae quem nunc vocitare *taracem*
Coeperunt. Avium est multo stultissima.¹ Namque
Cum pedicas necti sibi contemplerit adstans,
Immemor ipse sui tamen in dispendia currit.
Tu vero adductos laquei cum senseris orbes,
Appropera et praedam pennis crepitantibus aufer.
Nam celer oppressi fallacia vincula colli
Excutit et rauca subsannat voce magistri
Consilium et laeta fruitur iam pace solutus.
Hic prope Peltvinum radicibus Apennini
Nidificat, patulisque se sol obicit agris,

¹Cf. the name 'Fool-hen' given to one of our mountain grouse in the Western States, and the 'Fool-duck' applied to the little Ruddy Duck. Such a title or epithet is almost unparalleled in the ancient poets.

Persimilis cineri dorsum, maculosaque terga
 Inficiunt pullae cacabantis imagine guttae²
 Tarpeiae est custos arcis non corpore maior³
 Nec qui te volucres docuit, Palamede, figuras.
 Saepe ego nutantem sub iniquo pondere vidi
 Mazonomi puerum, portat cum prandia, circo
 Quae consul praetorve novus construxit ovanti.

—NEMES.(?), *Anth. Lat.* 883.

TURDUS. Κίχλη. Song-thrush, mavis. *Turdus musicus*.

Missel-thrush, *T. viscivorus*. Fieldfare, *T. pilaris*.

American parallels: Brown-thrush, robin, wood-thrush, et al.

Vid. int. al.

Aldrich: *The Winter Robin*.

Benton: *The Hermit Thrush*.

Bridge: *The Thrush*.

Bridges: *The Robin*.

Caldwell: *Robin's Come*.

Clifton: *To a Robin*.

Daly: *To a Thrush*.

Davis: *The Wood Thrush*.

Emily Dickinson: *To a Robin*.

Hardy: *The Darling Thrush*.

Hirst (Duyckinck): *The Robin*.

Larcom: *The Brown Thrush*.

Larcom: *Sir Robin*.

Keats: *The Thrush's Song*.

Pattee: *The Hermit Thrush*.

Gen. Albert Pike: *To a Robin*.

(Written in New Mexico in 1832, on hearing the song of the only red-breast he ever saw there.)

Roberts: *The Hermit Thrush*.

Stratton (Sladen): *The Robin's Madrigal*.

Taff: *Robin*.

Taylor: *The Vecry-Thrush*.

Tennyson: *The Throstle*.

Valentine: *The Robin's Creed*.

Van Dyke: *The Vcery*.

Waterman: *A Thrush's Song*.

²Vlitius, Ms. notae.

³These references to the goose and crane surely point to a bird larger than the 'guinea-fowl.'

Epithets: Advena, avidus, crassus, edax, gravis, macrus, peregrinus, pinguis, raucus, trutilans, vagus.

The song of the thrush (drosca):

Dulce per ora sonat, dicunt quam nomine droscam¹
Sed fugiente die illa quieta silet.²

—*Anth. Lat.* 762, 11.

The brown rossignol's carol shrill.—STREET.
(*Frontenac, Canadian Spring.*)

Song-throstles, bold and fond
From Smyrna and from ancient Trebizond,
That sing in lofty tree-tops, at still noon,
A musical and melancholy tune.—GEN. ALBERT PIKE.

From choirs that lurk in hedge and birch
From black bird and from mavis.—LOWELL.

What was it the mournful wood-thrush said?—WHITTIER.

And where the shadows deepest fell
The wood-thrush rang his silver bell.—WHITTIER.

The winding water's sounding rush,
The long note of the hermit thrush.—WHITTIER.

And the robin through the long
Twilight sang his slumber song.—SILL.

'Twas spring, and loud the mavis piped outside.—ALDRICH.

The wood-thrush of the west, shall sing
Earth's last sweet even-song.—HOLMES.

And best of all, through twilight's calm
The hermit-thrush repeats his psalm.—HENRY VAN DYKE.

I hear the wood-thrush piping one mellow descant more.
—BRYANT.

I muse, while still the wood-thrush sings down the golden day.
—BRYANT.

And while the wood-thrush pipes his evening lay.—BRYANT.

Her thrushes sing in Rathburn bowers.—WHITTIER.

¹Cf. O. H. Germ. Drosce, M. Germ. Drossel.

²Cf. Hudson, op. cit., p. 43: "The throistle is a very persistent singer; throughout the day he sings at intervals, and again, more continuously, in the evening, when he keeps up an intermittent flow of melody until dark."

And in a thick, melodious rain
The mavis pours her mellow strain.—TIMROD.

Already sings with sweet and lyric ease
The western thrush.—HIGGINSON.

A wood-thrush gurgled in a vine.—CAWEIN.

The wood-thrush from his leafy tower
Rings, Hymen, Hymen, all day long.—WRIGHT.

Save when the robin's melancholy song
Is heard amid the coppice.—SARAH HELEN WHITMAN.

In the woods of America I have never been in such silence; for in the most retired places I have had the gentle murmuring streamlet, or sound of the Woodpecker tapping, or the sweet melodious strains of that lovely recluse, my greatest favorite, the Wood-Thrush.—AUDUBON, *Journal*, vol. I, p. 339. London.

I estimated that the nightingale had a most wonderful compass and was the greatest of all bird *vocalists*, but with a less individual and exquisite genius than our Wood-Thrush.—MINOT, *English Birds compared with American*. *Am. Nat.* 14, 56.

In melody, and above all in that finer, higher melody, where the chords vibrate with the touch of eternal sorrow, it (nightingale) cannot rank with such singers as the wood-thrush and hermit-thrush.—ROOSEVELT. Cf. Note IV, RUSCINIA.

The thrush as a table delicacy. Details:

Tendemus hinc recta Beneventum, ubi sedulus hospes,
Paene macros arsit dum turdos versat in igni.
—HOR., *Sat.* I, 5, 71.

The *macros* by itself points rather to spring than to autumn:
Cf. *Anth. Lat.* 395. October pinguis dat tibi ruris aves.

In the fall, birds and fowls of all lands become very fat.
—BURROUGHS.

At simul assis
Miscueris elixa, simul conchyliis turdis,
Dulcia se in bilem vertent stomachoque tumultum
Lenta feret pituita. —HOR., *Sat.* II, 2, 72.

Turdus
Sive aliud privum dabitur tibi, devolet illuc
Res ubi magna nitet domino sene.
—HOR., *Sat.* II, 5, 11.

'Non hercule miror,'
Aiebat, 'si qui comedunt bona, cum sit obeso,
Nil melius turdo, nil volva pulchrius ampla.'
—HOR., *Ep.* I, 15, 39.

Nec tenuem sollers turdarum nosse salivam.
—PERS. VI, 24.

Nec nullus nec te delectat, Baetice, turdus.
—MART. III, 77, 1.

Pylades, Marce, bibebat idem,
Nec melior panis turdusve dabatur Orestae.
—MART., VI, 11, 2.

Cum mittis turdumve mihi quadramve placentae,
Sive femur leporis, sive quid his simile est,

Buccellas misisse tuas te, Pontia, dicis.
Has ego non mittam, Pontia, sed nec edam.
—MART. VI, 75, 1.

Nec erubescit peierare de turdo.
—MART. VII, 20, 6.

Si mihi Picena turdos palleret oliva.
—MART. IX, 54, 1.

Palleret is due to the food of the bird. Cf. Auson., *Epist.* 31. Qualis Picenae populator turdus olivae clunes opimat cereas. Calp. III, 47. Non sic dstricta marcescit turdus oliva.

Inter aves turdus, si quid me iudice certum est,
Inter quadrupedes mattea prima lepus.
—MART. XIII, 92.

Netting thrushes; sending them as gifts and the like:

Nunc ab transenna hic turdus lumbricum petit;
Pendebit hodie pulchre, ita intendi tenus.
—PLAUT., *Bach.* 792.

Aut amite levi rara tendit retia
Turdus edacibus dolos. —HOR., *Epod.* II, 33.

Quin etiam turdoque licet missaque corona
Te memorem dominae testificare tuae.
—OV., *A. A.* II, 269.

Texta rosis fortasse tibi vel divite nardo
At mihi de turdis facta corona placet.
—MART. XIII, 50.

Uri Tongiluis malo dicitur hemitritaeo:

Novi hominis mores: esurit atque sitit.
Subdola tenduntur crassis modo retia turdis.

—MART. II, 40, 1.

Illic coronam pinguibus gravem turdis
Leporemque laesum Gallice canis dente.

—MART. III, 47, 10.

Sed tendit avidis rete subdolum turdis.

—MART. III, 58, 26.

Silva graves turdos exagitata dedit.

—MART. IV, 66, 6.

Quam quae rara vagos expectant retia turdos.

—MART. XI, 21, 5.

Whilst pecking corn, and void of care,
They fall un'wares in fowlers' snare.
Or whilst allur'd with bell and glass,
The net be spread, and caught, alas.—ANNE BRADSTREET.

The sportive urchins oft will skip away,
To chase the partridge from the neighb'ring bush;
And oft, with balls of well-attemper'd clay,
Will from its covert fright the trembling thrush.
(*The Country Meeting.*) —T. C. JAMES.

That's a brown thrush
In the underbrush,
Conceited, self-conscious, inclined to gush,
His is a voice that will not wear;
Faulty timber and volume weak,
He wings from his beak
A spiral squeak
That bores like a gimlet through the air!
And the cat-bird, too,
With its feline mew,
Is only fit for the springe and the snare!
(*To an English Nightingale.*)

—MAURICE THOMPSON.

TURTUR. Τρῦγών. Turtle-dove.

Columba turtur.

American parallels: Mourning dove, turtle-dove.

Thomas: *The Mourning Dove.*

Keeler: *To a Mourning Dove.*

A play on the spelling of *turtur*:¹

Prima sonat quartae, respondet quinta secundae,

Tertia cum sexta: nomen habet avis.

—*Anth. Lat.* 738a.

Cf. Morris, *Whip-poor-will.* S. v. LUSCINIA.

The whip-poor-will, her name her only song.—WILCOX.

The turtle-dove as a delicacy:

Tu tibi istos habeas turtures, piscis, avis,

Sine me aliato fungi fortunas meas.

—PLAUT., *Most.* 44.

Aureus immodicis turtur te clunibus implet,

Ponitur in cavea mortua pica mihi.

—MART. III, 60, 7.

At ille retro flexus ad pedum turbam

Inter catellas anserum exta lambentes

Partitur apri glandulas palaestritis

Et concubino turturum nates donat.

—MART. III, 82, 18.

Et devorato capite turturem truncum.

—MART. VII, 20, 15.

Dum pinguis mihi turtur erit, lactuca valebis;

Et cocleas tibi habe. Perdere nolo famem.

—MART. XIII, 53.

Sed placet Ursidio lex Iulia, tollere dulcem

Cogitat heredem, cariturus turture magno

Mullorumque iubis et captatore macello.

—JUV. VI, 38.

Fulcit utrumque latus turdus cum turture pinguis

Multaque perniferum corpore pandit opus.

—*Anth. Lat.* 176, 5.

¹Cf. Isid., *Orig.* 12, 17. Turtur de voce vocatur. Morris, *op. cit.* IV, p. 173.

"The note resembles the syllable 'tur, tur,' more or less often repeated, and more or less quickly—doubtless the origin of the name."

Perna, lepus, turtur, perdix, Iunonius ales,
 Agnus, porcellus iunguntur, candidus anser.
 (*De mistu asso.*) —*Anth. Lat.* 230, 1.

How turtle-doves (by implication) were killed when captured, by piercing their brains with their own feathers:

In fundas visci indebant grandiculos globos,
 Eo illos volantis iussi funditarier.
 Quid multa verba? Quemquem visco offenderant,
 Tam crebri ad terram reccidebant quam pira.
 Ut quisque acciderat, eum necabam ilico
 Per cerebrum pinna sua sibi quasi turturem.
 —PLAUT., *Poen.* 481.

Fell as an eagle pierced with stabs from his own wing.
 —STEDMAN.

How the turtle-dove was loved by the parrot:

Candida si non sum, placuit Cephaia Perseo
 Andromede, patriae fusca colore suae:
 Et variis albae iunguntur saepe columbae,
 Et niger a viridi turtur amatur ave.
 —Ov., *Her.* XV, 35.

Vid. Ov., *Am.* II, 6, 12, s. v. PSITTACUS. Cf. Plin. X, 96. Gesner, op. cit., p. 305: "Est contra quod mihi et item multis exploratum saepe fuit." Morris, op. cit. IV, p. 173: "Turtle-doves may be kept in confinement, but in that state are quarrelsome with other birds."

Niger, like the *purpureis* in Hor., Od. IV, 1, 11, must not be taken literally.

How the turtle-dove cooes with mournful note:

Nec tamen interea raucae, tua cura, palumbes
 Nec gemere aerea cessabit turtur ab ulmo.
 —VERG., *Ecl.* I, 58.

Through dark and dismal groves
 Where the sad turtle loves
 To pass the night and kill the day.—FRENEAU.

May is passing:
 'Mid the apple boughs a pigeon cooes.—LARCOM.

"Coo-loo! Coo-loo!"
 Hear the doves in the tree-tops croon,
 "Coo-lou! Coo-loo!"
 Love comes soon.—CARMAN-HOVEY.

Sonantque turres plausibus columbarum,
Gemit hinc palumbus, inde cereus tutur.

—MART. III, 58, 18.

Et castus¹ turtur atque columba gemunt.

—*Anth. Lat.* 762, 20.

Will she or nill the chastest turtle must
Taste of the pangs of their unbridled lust.

(*New England's Crisis.*) —BENJAMIN TOMPSON.

The moan of doves in immemorial elms.—TENNYSON.

No closer sound than sob of distant dove.—SILL.

The turtle cooes his sweet refrain.—FIELD.

The drowsy moan of doves.—RILEY.

And that low, sweet voice, like a widow's moan.

—DOANE (Griswold).

Ye could not mourn with more melodious art
Than daily doth yon dim sequestered dove.—LANIER.

The lark's clear note, the dove's melodious moan.—MIFFLIN.

Or as the pensive dove doth all alone
(On withered bough) most uncouthly bemoan
The absence of her love, and loving mate,
Whose loss hath made her so unfortunate:
Ev'n thus do I, with many a deep sad groan
Bewail my turtle true, who now is gone,
His presence and his safe return, still wooves,
With thousand dolefull sighs and mournfull cooes.

(*Letters to her Husband.*)—ANNE BRADSTREET.

Or mourning dove which grieves and grieves,
And "Lost! Lost! Lost!" still seems to say.

—COOLIDGE.

The wood-dove's note of sad complaint.—WHITTIER.

Nor sadly wept the sympathising dove.—FRENEAU.

Since then the Poet ever hears
The mourning dove's undying plaint,
He knows not why with kindred pain
His inmost heart is faint.—MACE.

(*The Two Doves.*)

¹Cf. She's . . . modest as the dove.—SHAKESPEARE. Vid. Plaut., *Bacch.* 68, for obscene reference to turtle-dove.

ULULA. Αἰγώλιος. Screech-owl or possibly the barn-owl.
Strix flammea.

American parallels: Screech-owl, barn-owl, etc.

Tennyson: *The Owl*.

Timrod: *To a Captive Owl*.

A striking contrast. Proverbial:

Certent et cynnis ululae, sit Tityrus Orpheus.

—VERG., *Ecl.* VIII, 55.

Yon heron! What? Shall herons grapple hawks?—LANIER.

The mournful note of the *ulula*:

Ast ululant ululae lugubri voce canentes.

—*Anth. Lat.* 762, 41.

Cf. Thoreau, op. cit., p. 173: "And when all is still at night, the owls take up the strain, like mournful women their ancient *ululu* (cf. s. v. v. STRIX, BUBO). Their most dismal scream is truly Ben-Jonsonian. Wise midnight hags! It is no honest and blunt *tu-whit-tu-who* of the poets, but, without jesting, a most solemn graveyard ditty."

UPUPA. Ἑποψ. Hoopoe.

Vid. s. v. EPOPS.

VULTUR, VULTURIUS. Γούψ. Vulture.

Griffon vulture, *V. fulvus*. Black vulture, *V. cinereus*, et al.

Vultur, as usual when there are many species, is generic. The habits of the vulture, eagle and hawk are sometimes confused in both the ancient and modern poets.

Perhaps no other bird (without metamorphosis associations) from Homer down has been so strongly enmeshed in the bonds of poetic tradition. The real bird is well nigh lost—even in the American poets. Cf. Robinson, *Foreign Birds and English Poets*. *Liv. Age*, 155, 241.

American parallels: Turkey-buzzard, condor.

Dove beneath the vulture's beak.—EMERSON.

And the condor beat with black wings the blue.—MILLER.

And preying no more as tiger and vulture do.—HOLMES.

Far above the roof-tree failing,
 See the hoary vulture sailing;
 Marketh he the serpent trailing
 Underneath the threshold-stone.

(*The Deserted House.*) —WARFIELD-LEE (Griswold).

The myth of Tityus and the vulture is the most common vulture motive in the Latin poets. Vid. Verg., *Aen.* VI, 595; *Cul.* 237; Prop. III, 11, 31; Stat., *Theb.* VI, 754; Sil. Ital. XIII, 597; Sen., *Thyest.* 8; *Hippol.* 1232; *Her. Fur.* 687; *Oct.* 621; Boeth., *Consol.* III, 12, 38, et al.

Cf. While Envy, like a rav'nous Vulture, tears
 His canker'd heart to see your Brother's triumph.—GODFREY.
 (*The Prince of Parthia.* 1759.)

For doubt and darkness, o'er thy head,
 Forever waved their Condor wings.

—SARAH HELEN WHITMAN.

May no vulture beak
 Transpierce thee for thine hospitality.—SIGOURNEY.

Prey to the vulture of a vast desire
 That feeds upon my life.—HOLMES.

Chained to the icy peak,
 Rent by the vulture's beak.—TICHNOR.

No chained Prometheus feasts the vulture there.—BARLOW.
 (*Columbiad.*)

My reward hath been the rock and vulture.—LONGFELLOW.

But still, as when Prometheus bare
 From heaven the fiery dart,
 I saw the "vulture passions" tear
 The proud Caucasian heart.—SARAH HELEN WHITMAN.

There Prometheus lay,
 Chain'd to the cold rocks of Mount Caucasus—
 The vulture at his vitals, and the links
 Of the lame Lemnian festering in his flesh.—WILLIS.

Her memory is no Caucasus for thee,
 And e'en her hovering hate would o'er thee fling
 Too much of glory from its shadowy wing!
 —GRACE GREENWOOD.

While thus with fiery eye, and outspread wings,
 The ruthless vulture to his victim clings,
 With whetted beak deep in the quivering heart.
 Oh, thou embodied meaning, master wrought.
 (*Tityus Chained in Tartarus.*) —STEBBINS (Griswold).

In one passage the horror of the vultures themselves is portrayed:

Ipsae horrent, si quando pectore ab alto
Emergunt volucres immensaue membra iacentis
Spectant, dum miserae crescunt in pabula fibrae.

—STAT., *Theb.* XI, 13.

The myth of Prometheus and his torture:

Cingitur inde sinus, et, qua sibi fida magis vis
Nulla, Prometheae florem de sanguine fibrae
Caucasium, tonitru nutritaque gramina promit,
Quae sacer ille nives inter tristesque pruinas.
Durat editque cruor, cum viscere vultur adeso
Tollitur e scopulis, et rostro irrorat aperto.

—VAL. FLACC. VII, 355.

Vid. s. v. AQUILA. Thompson, op. cit. s. v. 'Αετός.

The eagles of incessant thought still prey
Upon me here; so, as Prometheus stood
Chained in Caucasus, there in his blood
The eternal Vulture gnawed.—MIFFLIN.

The beak-torn Titan's hungering pain!—WHITTIER.

God's bird of wrath! Swift is thy wrath, O God,
Strong is thy jealousy!—MOODY.
(*The Fire-Bringer.*)

Prometheus thus, in fabled days of old
Crown'd with success, grew arrogant and bold;
Braved heaven's high lord, with blest immortals strove,
And raised his arm against the throne of Jove;
The god enraged, with mighty vengeance hurl'd
The daring miscreant to the nether world;
In durance stretch'd, and bound with massy chains,
Condemn'd to torment and eternal pains;
On his torn breast a greedy vulture fares,
Sucks the warm blood, the tender liver tears;
In vain devours, in vain the torrent flows,
Still, still, the bloody feast immortal grows.

—PEIRCE (Kettell).

Cf. supra for other definite references to the Prometheus myth and vid. passim Longfellow, *Prometheus*; Lowell, *Prometheus*; Moody, *The Fire-Bringer*.

For vultures as scavengers feeding upon the dead vid. Enn. Baehrens, *P. L. M.* 93; Luc. IV, 680; Ov. *Am.* II, 6, 33; *Trist.* I, 6, 11; *Ib.* 169; Juv. IV, 3; Mart. VI, 62, 4; Luc. VII, 835; Stat., *Theb.* III, 509; Val. Flacc. IV, 69; et al.

And buried corpses there
Be raised, to feast the vultures of the air.—FRENEAU.

Gray captains leading bands of veteran men
And fiery youths to be the vultures' feast.—BRYANT.

Thou passest o'er the battlefield
Where the dead lie stiff and stark
Where naught is heard save the vulture's scream.
—W. H. TIMROD.

For a time in our colonial poets, the hawk came into fashion (of course quite wrongly) as the typical scavenger bird of the battle-field:

Your bodies limb from limb this arm shall tear,
Nor sons nor wives nor sires nor infants spare,
But bid the hungry *hawks* your race devour
And call grim wolves to feast in floods of gore.
(*Conquest of Canaan.*) —TIMOTHY DWIGHT.

The beasts shall rend them, and the *hawks* devour.
(*Conquest of Canaan.*) —TIMOTHY DWIGHT.

Left in the field for foreign *hawks* to tear
Nor can our own vultures the banquet share.
(*Columbiad.*) —BARLOW.

The wide beak'd *hawk* that now beholds me die,
Soon with his cowering train my flesh shall tear.
(*Columbiad.*) —BARLOW.

The *hawks* who range the fields of air
Are fatten'd with our gore.—WILLIAM MUNFORD.
(*Patriots, who fell Nov. 4th, 1791.*)

But compare:

No hungry *vulture*, from the rock's tall brow,
Eyes the red field, and slaughtering host, below.
(*Conquest of Canaan.*) —TIMOTHY DWIGHT.

And the vulture ghoul, in the lofty pine,
Looks down with an eager eye and beak.—STRONG.

To be alone in this wide plain,
To hear the hungry vulture's wing,
And watch the fainting light of my existence wane.
(*Death in the Desert.*) —GEN. ALBERT PIKE.

For how vultures anticipate their days of plenty vid. Plaut., *Truc.*
335; *Capt.* 840.

The evil birds of carnage hung and watched,
As ravening heirs watch o'er the miser's couch.
—FAIRFIELD (Griswold).

O God, from vulture dreams my soul defend.—LANIER.

The vulture as a type of reproach and detestation :

Non hercle humanus ergo—
Nam volturio plus humani credo est.
—PLAUT., *Mil. Glor.* 1043.

Tum autem sunt alii qui te volturium vocant
Hostisne an civis comedis parvi pendere.
—PLAUT., *Trin.* 101.

Cf. Cic., *In Pis.* 16, 31; Cat. LXVI, 124; CVI, 4.

An imaginary fresco representing satirically a crow (Tranio), be-deviling two vultures (Theopropides, Simo).

Tr. Viden pictum ubi ludificat una cornix vultorios duos?
Th. Non edepol video. Tr. At ego video: nam inter volturios duos.
Cornix astat: ea volturios duos vicissim vellicat.
Quaeso huc ad me specta, cornicem ut conspicere possies.
Iam vides? Th. Profecto nullam equidem illic cornicem intuo.

Tr. At tu istoc ad vos optuere, quoniam cornicem nequis
Conspicari, si volturios forte possis contui.

Th. Omnino, ut te apsoluam, nullam pictam conspicio hic avem.

Tr. Age, iam mitto, ignosco: aetate non quis optuerier.
—PLAUT., *Most.* 832.

Prof. G. D. Kellog's clever interpretation as an architectural joke (*Trans. and Proc. Amer. Phil. Assoc.*, vol. XLI, p. xliii), postulates, I fear, more ornithology, architecture and Greek than either Plautus himself could have used or his audience follow.

For the Fable of the 'Canis, Thesaurus et Volturius' vid. Phaed. I, 27:
The mother-love of the vulture. This myth was later associated with the pelican. Vid. Thompson, op. cit., p. 48. S. v. ONOCROTALUS.

Cf. The vulture, all maternal, typing thus
Earth, mountain crowned, the glory of the sea,
And mother of us all.—BAILEY.

The vulture in proverbial sayings. An unlucky throw of dice :

Iacit vultorios quattuor.

—PLAUT., *Curc.* 2, 3, 78.

Of something impossible :

Vultur profert cornua.

—CLAUD., *In Eutrop.* I, 352.

Praepes funereo cum vulture ludat hirundo.

—*Anth. Lat.* 390, 27.

The cry of the vulture :

Dum clangunt aquilae, vultur pulpare probatur.

—*Anth. Lat.* 762, 27.

She could scream like a vulture or wink like an owl.

—FRENEAU.

NOTE I.

THE SPRING MIGRATION AND SPRING SONG.

To the poets of northern lands the return of the birds in the spring is a nature motive which has been very widely recorded. After the long period of songless autumn and winter, the eagerly awaited songs of the harbingers of spring, associated with the sunshine and joy of the season, naturally aroused the emotions of both folk and poetic consciousness.

The climatic conditions of America are preeminently conducive to such results; consequently it is not surprising to note how fully throughout their pages our own poets have voiced this feeling, for the most part referring to the birds that are equally familiar to every observer. The following citations chosen from scores will indicate the general range and temper of this particular impulse:

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—WHITMAN.

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'Tis the noon of the spring-time, yet never a bird
In the wind-shaken elm or maple is heard.—WHITTIER.

The birds are here, for all the season's late.—LOWELL.

Whence, oh, whither have they come?
From what rugged, wintry home,
That thus suddenly they bring
These glad messages of spring?
From the hollows of the rocks
Come these sable-coated flocks?
Or, in the forest deep
Have they shivered into sleep,
Where the fir tree or the pine
Their thick boughs intertwine?—LUNT.
(*Blackbirds.*)

O wild-birds flying from the south,
What saw and heard ye, gazing down?—WHITTIER.

May with her flowers and singing birds, had gone.—BRYANT.

A thousand black birds kept on wing
In walnut tops and it was Spring.—MILLER.

Sparrows far off, and nearer April's bird
Blue-coated flying before from tree to tree.—EMERSON.

The winter goes and the summer comes
And the merry blue birds twitter and trill.—ALICE CARY.

And blue birds in the misty spring
Of cloudless skies and summer sing.—BRYANT.

The blue bird chants, from the elm's long branches
A hymn to welcome the budding year.—BRYANT.

And from the stately elms I hear
The blue bird prophesying Spring.—LONGFELLOW.

A laugh which in the woodland rang,
Bemocking April's gladdest bird.—WHITTIER.

To northern lakes fly wind-borne ducks.—EMERSON.

Soars high with canticle of the blest
The jubilant bobolink.—MACE.

Gladness on wings, the bobolink has come.—LOWELL.

And lo! the bobolink—he soars and sings
With all the heart of summer in his wings.—LAMPMAN.

And in flocks the wild goose Wawa,
Flying to the fenlands northward.—LONGFELLOW.

Back into their lakes and marshes
Came the wild goose and the heron.—LONGFELLOW.

Hill lads at dawn shall hearken the wild goose
Go honking northward over Tennessee.—MOODY.

I hear the whispering voice of Spring
The thrush's trill, the robin's cry.—HOLMES.

The robin the forerunner of spring.—LONGFELLOW.

The robins are come again
With tender, melodious note.—MACE.

While the song sparrow warbling from his perch
Tells you that spring is near.—BRYANT.

Already, close by our summer dwelling
The Easter sparrow repeats her song.—BRYANT.

Dusky sparrows in a crowd
Darting, darting northward free.—EMERSON.

At last I saw her watch the swan
Surge toward the north.—MILLER.

The coming of the first robin was a jubilee beyond crowning of monarch or birthday of pope.—MABEL LOOMIS TODD. (Preface, *Poems of Emily Dickinson*. Second Series.)

Yea, the stork in the heaven knoweth her appointed times; and the turtle and the crane and the swallow observe the time of their coming.
—Jer. VIII, 7.

In Greece and Italy climatic conditions differ widely from our own. The winter is less long and severe. Many northern birds winter there but fewer stay during the summer after spending the winter across the sea. Yet the Greek poets note at least eight species in connection with the northern flight of birds in their spring migration. (Vid. Pischinger, *Der Vogelszug bei den Griechischen Dichtern*. Kap. I. *Der Frühjahrszug*.) The swallow holds the chief place of honor as the harbinger of spring. Vid. Hom., *Carm. Min.* XV, 11; *Carm. pop.* 41 (*Athen.* VIII, 360c); Ar., *Eq.* 419; Simon. 74; Ar., *Av.* 714; Cratin., *Frag.* 33; Sapp., *Frag.* 39; cf. also Thompson, op. cit., p. 188; Pischinger, op. cit., p. 8. The others are as follows: Nightingale, vid. Sappho, *Frag.* 39; Soph., *Elect.* 149. For the spring song of the nightingale, int. al. vid. Hom., *Od.* XIX, 518; Simon., *Frag.* 73; Ar., *Av.* 683; Anth. Pal. IX, 363. Cuckoo, vid. Hes., op. 486. Kite, Ar., *Av.* 713. Wild duck and crane, *Carm. Anac.* 44. Κηρύλος (a seabird, as yet unidentified), Alc. 12 (20). Black bird, Theoc., *Epig.* IV, 9. These citations collected by Thompson and Pischinger represent about all the Greek poets have left us, but we must remember that we have only very scanty remains from the lyric poets, to whom the poetry of spring and its attendant associations must have been especially dear. The references, in this connection, to the swan, jackdaw and birds of Memnon are rather too vague to be convincing.

In the Latin poets recognition of the spring migration, spring song and nesting is somewhat more widely attested, and the tone is oftentimes surprisingly modern. As with the Greeks, the swallow and nightingale

hold the chief places. For the full record in the Latin poets vid. s. v. v. HIRUNDO, LUSCINIA, ACREDULA, CICONIA, CYCNUS, FRINGILLA, GRUS, PALUMBES, PASSER, STURNUS, TURDUS.

The verses (int. al.) which follow, referring to birds in general, show even more fully the wide sympathy which the Romans felt for the varied bird life of spring time.

Simile. The funeral of Cyzicus was as silent as Memphis and the Nile after the birds have gone north :

Tandemque quiescunt
Dissona pervigili planctu vada, qualiter arctos
Ad patrias avibus medio iam vere revectis
Memphis et aprici statio silet annua Nili.
—VAL. FLACC. III, 358.

The emotions of a migrant bird :

Fixerat ille gradus, totoque ex agmine solus
Stabat, ut extremis desertus ab orbibus axis,
Quem iam lassa dies Austrique ardentis arenae,
Aut quem Rhiphaeas exstantem rursus ad arces
Nix et caerulei Boreae ferus abstulit horror:
Cum subito attoniti longissima Phasidis unda
Caucasiaeque trabes omnisque Aetia tellus
Fulsit, et ardentes stabula effudere tenebras.
—VAL. FLACC. VII, 557.

The joy of the birds on reaching their northern haunts :

Qualia trans Pontum Phariis defensa serenis
Rauca Paraetonio decedunt agmina Nilo,
Cum fera ponit hiems: illae clangore fugaci
Umbra fretis arvisque volant: sonat avius aether:
Iam Boream imbresque pati, iam nare solutis
Amnibus et nudo iuvat aestivare sub Haemo.
—STAT., *Theb.* V, 11.

The spring song of birds is general :

Avia tum resonant avibus virgulta canoris.
—VERG., *Geor.* II, 328.

Prataque pubescunt variorum flore colorum
Indocilique loquax gutture vernat avis.
—OV., *Trist.* III, 12, 7.

Et tepidum volucres concentibus aëra mulcent.
—OV., *Fast.* I, 155.

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Pischinger (op. cit.) and Thompson record at least eight species noted by the Greek poets as fall migrants. The Crane (γέρανος, *grus*) is preeminently first with the poets of both lands in this regard. The others (vid. s. v. v.) are the Stork (πελαργός, *ciconia*), Wild Goose (χήν, *anser*), Swan (κύκνος, *cygnus*), Starling (ψάρ, *sturnus*), Jackdaw (κολοιδός, *monedula*), Thrush (κίχλη, *turdus*), Swallow (χελιδών, *hirundo*).

A summary of the most striking of the passages referring to these birds will make clear to the reader the trend and tone of the ancient observation of this phenomenon.

Crane. The Trojans are compared to flocks of migrating cranes which with loud cries flee southward from approaching winter to wage war upon the pygmies. Hom., *Il.* III, 2. The cry of the migrant crane is a signal to the farmer to begin his fall plowing. Hes., *Op.* 448; *Theog.* 1197. The same cry is a sign to the sailor to leave the sea for the winter. Ar., *Av.* 710. The finest passage in the ancient poets regarding the crane is in Eur., *Hel.* 1418, where the chorus accompany Menelaus and Helen, as they leave Egypt for home—with the wish that they, like migrant cranes, might fly to the banks of the Eurotas and announce the homecoming of the royal pair. Flocks of migrating cranes sink a ship at sea. *Anth. Pal.* VII, 543. The tale of Ibycus and

Vere prius volucres taceant, aestate cicadae,
 Maenalius lepori det sua terga canis,
 Femina quam iuveni blande temptata repugnet.
 —Ov., *Ars Amat.* I, 271.

Hinc verno platanus folio viret
 Et Phoebo laurus carum nemus;
 Garrula per ramos avis obstrepit.
 —SEN., *Oed.* 452.

Vere novo, cum iam tinnere volucres
 Incipient.
 —CALP., *Ecl.* V, 16.

Nunc cuncta veris: frondibus annuis
 Crinitur arbor, nunc volucrum novi
 Questus inexpertumque carmen
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Pischinger (op. cit.) and Thompson record at least eight species noted by the Greek poets as fall migrants. The Crane (γέρανος, *grus*) is preeminently first with the poets of both lands in this regard. The others (vid. s. v. v.) are the Stork (πελαργός, *ciconia*), Wild Goose (χήν, *anser*), Swan (κύκνος, *cygnus*), Starling (ψάρ, *sturnus*), Jackdaw (κολοιός, *monedula*), Thrush (κίχλη, *turdus*), Swallow (χελιδών, *hirundo*).

A summary of the most striking of the passages referring to these birds will make clear to the reader the trend and tone of the ancient observation of this phenomenon.

Crane. The Trojans are compared to flocks of migrating cranes which with loud cries flee southward from approaching winter to wage war upon the pygmies. Hom., *Il.* III, 2. The cry of the migrant crane is a signal to the farmer to begin his fall plowing. Hes., *Op.* 448; *Theog.* 1197. The same cry is a sign to the sailor to leave the sea for the winter. Ar., *Av.* 710. The finest passage in the ancient poets regarding the crane is in Eur., *Hel.* 1418, where the chorus accompany Menelaus and Helen, as they leave Egypt for home—with the wish that they, like migrant cranes, might fly to the banks of the Eurotas and announce the homecoming of the royal pair. Flocks of migrating cranes sink a ship at sea. *Anth. Pal.* VII, 543. The tale of Ibycus and

the migrant cranes. *Anth. Pal.* VII. 745. Migrant cranes as foes to the fields in autumn. *Anth. Pal.* VII, 172. Cf. also Theoc. X, 30. The crane (and black bird) as innocent, carefree travelers. Ar., *Frag.* 10. The myth of the cranes and pygmies recurs again and again, vid. Hom., *Il.* III, 2, which is the earliest reference to it. Then, though failing to appear in the lyric and dramatic poets, it comes to light again in the later remains. Vid. *Anth. Pal.* XI, 265; XI, 369; Opp., *Hal.* I, 620.

Pischinger, after reviewing the literature on the subject and arguing chiefly from the fact that the later prose writers do not localize the pygmies in Africa, concludes that the myth originated in the realm of folk phantasy. It seems to me that Thompson is more likely correct when he attempts to rationalize the myth on a naturalistic basis. He cites a parallel in the Indian story of the warfare between the Garuda bird and the dwarfs, and suggests also that the myth may have arisen "in the pursuit of the ostrich by some southern dwarfish race." That reports of African pygmies had reached Europe at a very early date is quite probable.

How the Crane steadies its flight by a ballast of stones, Ar., *Av.* 1136; *Av.* 1428; Dionys. XL, 515. Pischinger's naturalistic rationalization is of interest (vid. op. cit.). The other birds recorded in this connection may be passed over very quickly. The Stork captured with Cranes in the fall, Babr. 13. The Wild Goose, Hom., *Il.* II, 460; XV, 692; *Anth. Pal.* VII, 546. The Swan, Hom., *Il.* II, 460; XV, 692; Eur., *Rhes.* 618; Ar., *Av.* 774. The Starling and Jackdaw, Hom., *Il.* XVII, 755 ff. The Thrush, *Aes. Fab.* 194. The Swallow, Anac., *Carm.* 25 (33). The last reference is of especial interest as clearly opposed to the hibernation lore of the north. Vid. Note III.

In the Latin poets again, as with the spring migration and the observation of spring song, the appreciation of this phenomenon also, seems to have grown and to be portrayed with a wider range of fancy.

The Crane (vid. s. v. GRUS). In Luc. V, 711, we have a picture of their flight from the north to Egypt. In Stat., *Theb.* XII, 515, a portrayal of the joy of the cranes on arriving at their winter haunts on the Nile. In Claud., *De Bell. Gild.* 474, an allusion to the warfare between pygmies and cranes and a reference to the letters formed by the cranes in flight. In Ov., *Met.* VI, 90, the myth of Gerana, who was metamorphosed into a crane and doomed to wage eternal warfare with her own people, the pygmies. In Juv. XIII, 167, a description of a battle between cranes and pygmies. In *Priap.* 46, 3; *Anth. Lat.* I, p. 158; II, p. 365; Namat. I, 285, et al., varying references to the myth. In

Verg., *Geor.* I, 373, the crane is hunted in the late fall and winter, in Hor., *Ep.* II, 30, the crane is called the *advenam gruem*.

The Swallow (vid. s. v. *HIRUNDO*).

In Ov., *Ex Pont.* IV, 14, Ovid dreads the land of the Getae as much as swallows do the coming of winter.

In Mart. V, 67, is told the story of the swallow that did not migrate in the fall, and how she was killed by the others when they returned in the spring. Vid. Note III.

In Ov., *Her.* XV, 151, the absence of bird-song in the fall is expressly noted. But the nightingale (wrongly, of course) is said to still bemoan the loss of Itys at this season. There is the same error in the fall song of the nightingale in Ov., *Her.* X, 7, but my collections show no record of the fall migration of Philomela. Once or twice the wild goose is associated with the crane as a foe to the fields of grain, and the migration of the fall seems to lie back of this observation.

The following passages (int. al.) relating to birds in general show more fully the Roman manner of utilizing this motive.

Three similes. The fall migrants are as numerous as the ghosts of the dead.

Quam multa in foliis avium se milia condunt,
Vesper ubi aut hibernus agit de montibus imber.

—VERG., *Geor.* IV, 473.

Quam multae glomerantur aves, ubi frigidus annus
Trans pontum fugat et terris immittit apricis.

—VERG., *Aen.* VI, 310.

Nec tanta gelide Strymones fugiens minas
Permutat hiemes ales et caelum secans
Tepente Nilo pensat Arctoas nives
Quot ille populos votis eduxit sonus.

—SEN., *Oed.* 625.

Cf. Deseritur Strymon, tepido committere Nilo
Bistonias consuetus avis. —LUC. III, 200.

The migrants overtaken by a cold storm:

Quales instanti nimborum frigore maestae
Succedunt ramis haerentque pavore volucres.

—VAL. FLACC. VI, 505.

October is the month for fowling:

October pinguis dat tibi ruris aves.

—*Anth. Lat.* 395, 38.

In winter there is no song:

Sed quantum, volucres cum bruma coeret,
Rura silent mediusque iacet sine murmure pontus,
Tanta quies. —LUC. I, 259.

The following passages, chosen from many, will show the tone of our own poets regarding the autumn flight of birds:

Brown meadows and russet hill are all alive with birds.
—BRYANT.

A gray bird rising forever more,
And drifting away toward the Mexican seas.—MILLER.

The birds have left the shivering pines
To flit among the trellised vines
Or fan the air with scented plumes
Amid the love-sick orange blooms.—HOLMES.

And when the lengthening nights have chilled the skies,
We fain would hear the song bird ere he flies.—HOLMES.

Like rainbow-feathered birds that bloom
A moment on some autumn bough
That with the spurn of their farewell
Sheds its last leaves.—LOWELL.

Cares the cuckoo for the wood
When the red leaves are down?—SILL.

Even the little field-fares in the corn no longer twitter.
—LONGFELLOW.

Southward the clamorous sea fowls wing their flight.
—LONGFELLOW.

Drove the loon and sea gull southward.—LONGFELLOW.

The robin and wren are flown
And from the shrubs the jay.—BRYANT.

I had a crimson robin
Who sang full many a day,
But when the woods were painted
He, too, did fly away.—EMILY DICKINSON.

Instead of lark or linnet
Shall whirl dead leaves and snow.—LOWELL.

And the swallow he swingeth no more aloft.—ALICE CARY.

Behold, the fleeting swallow
 Forsakes the frosty air.—TABB.
 (*October.*)

With mournful cries the wild geese fly,
 Hurrying to the red-lipped South.—HIGGINSON.

A haze on the far horizon,
 The infinite, tender sky,
 The ripe, rich tint of the cornfields,
 And the wild geese sailing high:
 And all over upland and lowland
 The charm of the golden-rod,—
 Some of us call it Autumn,
 And others call it God.—CARRUTH.

Overhead the wild geese fly,
 Honking in the autumn sky.—CARMAN-HOVEY.

O'er us, the south land heading,
 Screams the gray wild goose.—WHITTIER.

With mingled sound of horns and bells,
 A far-heard clang, the wide geese fly,
 Storm-sent, from Arctic moors and fells,
 Like a great arrow through the skies,
 Two dusky lines converged in one,
 Chasing the southward-flying sun;
 While the brave snow-bird and hardy jay
 Call to them from the pines, as if to bid them stay.
 —WHITTIER.

"I am ready to go," cried the querulous wren,
 "From the wind-swept homes of these northern men."
 —SIGOURNEY.

Then the glad birds, from their migration held
 By his warm smile, pour'd forth their grateful strain.
 "He gave us food, and with no stinted hand
 Scatter'd the seeds that pleased our callow young,
 And chained the howling blasts that ere the time
 Were wont to drive us from our nests away.
 For this we love him."—SIGOURNEY.

Then tribe after tribe, with its leader fair,
 Swept off through the fathomless depths of air.
 Who marked their course to the tropics bright?
 Who nerved their wing for its weary flight?
 Who guideth that caravan's trackless way
 By the star at night and the cloud by day?
 (*Birds of Passage.*) —SIGOURNEY.

NOTE III.

THE HIBERNATING OF BIRDS.

"But what struck me most was, that from the time they began to congregate, forsaking the chimneys and houses, they roosted every night in the osier-beds of that river (the Thames). Now this resorting towards this element, at that season of the year, seems to give some countenance to the northern opinion (strange as it is) of their retiring under water. A Swedish naturalist is so much persuaded by that fact, that he talks, in his calendar of the Flora, as familiarly of swallows going under water in the beginning of September, as he would of his poultry going to roost a little before sunset."

"I am more and more induced to believe that many of the swallow kind do not depart from this island: but lay themselves up in holes and caverns; and do, insect-like and bat-like, come forth at mild times, and then retire again to their latebrae."

"Summer birds are, this cold and backward spring, unusually late. I have seen but one swallow yet. This conformity with the weather convinces me more and more that they sleep in winter."

These interesting passages from the classic '*Natural History of Selborne*' show that Gilbert White could never quite free himself from this bit of northern folk-lore. He pondered over it for forty years, but, as Prof. W. Warde Fowler has noted, here he had advanced but little beyond the point reached by Aristotle. Nuttall (op. cit., vol. I, p. 395, p. 400) gives two or three explanations for this widely spread belief in the hibernation of swallows.

"Accidental fits of torpidity, like those which occasionally and transiently take place with the humming bird, have undoubtedly happened to swallows, without proving anything against the general migrating instincts of the species, which as long back as the time of Anacreon has been generally observed."

"This predilection (by swallows) for the borders of lakes and ponds led some ancient writers to believe that swallows retired to the bottom of the water during the winter; and some fishermen on the coast of the Baltic pretended to have taken them up in their nets in large knots, clinging together by their bills and claws in a state of torpidity."

Coues, *Birds of the Colorado Valley*, pp. 378-390, contains a long

discussion of the problem, with a bibliography of astounding size. Dr. Coues seems still to cherish an almost believing sympathy for the myth, because of the apparent validity of the testimony. But cf. Alexander Wilson, op. cit. s. v. BARN SWALLOW.

When we turn to the records of Greece and Rome, we find this belief in hibernation clearly attested. Aristotle (*H. A.* VIII, 16) mentions at least ten species as hibernating birds. Pliny (*X*, 24 [34], 41, 29) repeats the account of Aristotle. The list is surprisingly large, and seems to point to a confusion of hibernation and migration. The ancient poets, however, are more accurately in accord with the real facts which produced the error, when they assign hibernation (in the main) to the swallow only. (Cf. Lunt. *Blackbirds*, supra, Note I, Spring Migration.)

Pischinger (op. cit. Kap. IV, *Winterschlaf*, p. 48), is convinced that Hes., *Op.* 568; Phil., *Frag.* 208, and Ar., *Av.* 108 ff. are best interpreted on the assumption that they reflect a belief in this phenomenon. It seems to me, however, that the more commonly attested observation of migration is quite adequate for the full understanding of the passages in question.

In the Latin poets we find at least two citations which clearly refer to this folk tradition:

Vel qualis gelidis pluma labente pruinis
Arboris immoritur trunco brumalis hirundo.

—CLAUD., *In Eutrop.* I, 117.

Conglaciuntur aquae, scopulis se condit hirundo:
Verberat egelidos garrula vere lacos.

—*Anth. Lat.* 760, 101.

Two other passages also may possibly hint at this doctrine of hibernation:

Tum blandi soles, *ignotaque prodit hirundo*
Et luteum celsa sub trabe figit opus.

—Ov., *Fast.* I, 157.

Hibernos peterent solito cum more recessus
Atthides, in nidis una remansit avis.

—MART. V, 67.

Gesner (op. cit., p. 529) turns the matter as an earnest for our own bodily resurrection.

"Iam visum est quod hirundines in plantis quibusdam concavis se abdiderunt; et hoc accidit in quadam silva superioris Germaniae, ubi incisa quercus putrida inventa est plena hirundinibus. Idem hoc Pompeius Columba, vir maximus rerum naturae rimator, in Germania se

reperisse in concavo cuiusdam arboris in imo fluminis exortae. Comperi latere hieme hirundines in nido suo tamquam mortuas; proinde non puto avolare eas. Totam hiemem habent secum recentia ova, reviviscunt autem sub aestatem. Quare indico mirabile quoddam opus esse, ac imaginem resurrectionis nostrorum corporum."

Thomson vacillated between hibernation and migration:

Clinging in clusters,
Beneath the mouldering bark or where,
Unpierced by frost, the cavern sweats,
Or *rather* into warmer climes conveyed,
With other kindred birds of season, there
They twitter cheerful, till the vernal
Months invite them back.—THOMSON.
(*Seasons. Winter.*)

Naturally it is not a motive which easily lends itself to the demands even of nature poetry, and our own poets (so far as I have been able to find) have recorded it only a few times—although it may possibly lurk in these lines from Holmes and Freneau:

And when and where the homeless swallows went
To pass the winter of their discontent.—HOLMES.

The birds are to their haunts withdrawn,
The leaves are scattered through the plain.—FRENEAU.

The earliest certain reference is from Michael Forrest's *Travels through America*, published in 1793. He refers to both migration and hibernation:

All the tuneful reluctant quit the grove.
And each in search of winter-quarters rove;
Quick to'rds the south to meet the genial ray,
On hasty pinions, some do bend their way;
Others, less knowing, or as fate design'd,
In hollow trees, seek shelter from the wind;
'Till the genial ray, and the smiling spring,
Dispel the gloom, and call them forth to sing.

The next two references are within the same decade:

Yes, winter's power must shortly pass away,
And all his dread appendages decay;
For now a short-liv'd glow of vernal heat
Invites the swallow from his close retreat.
(*Winter, 1800.*) —SAMUEL LOW.

When bank-lodg'd swallows doze in demi-death.
 (*Hamiltoniad, Canto III,*
Winter, 1804.) —JOHN WILLIAMS.

The next reference, in greater detail, is from the E. R. Campbell's poem on the '*Chimney-Swallows.*' (*Poets and Poetry of Vermont*, p. 34). Campbell, like Thomson, wavers between migration and hibernation:

Whence they come, or whither go,
 Only swallows ever know;
 Mortals only know they're here.

Whether at the south they rove,
 Sporting in the orange grove;
 Whether housed in lakes, or fens,
 Caverns low, or mountain dens,
 Matters not.

The last indubitable reference is from Whittier's *Flowers in Winter*, where the poet records the magic powers of an ancient wizard:

A wizard of the Merrimack,—
 So old ancestral legends say,—
 Could call green leaf and blossom back
 To frosted stem and spray.
 The dry logs of the cottage wall,
 Beneath his touch, put out their leaves;
 The clay-bound swallow, at his call,
 Played round the icy eaves.

This is, I believe, the last American allusion to this hoary bit of folklore and I think we may safely assume that it will never again find expression in verse.

NOTE IV.

RUSCINIA.

In an Old-English Glossary—published by Goetz in *Corpus Glossariorum Latinorum*, v — occur the words *acalantis*, *vel luscinia vel roscinia*, *nectegela*, which are assigned by Goetz to the eighth century. Their meaning is of course obvious. The form *ruscinia* as a parallel for *luscinia* appears also in a ninth century Ms. given by Diez, *Romanisches Wörterbuch*, s. v., citing Mone's *Anzeiger*, vii, 148. These are the Roman sources for the word *ruscinia*. In Latin, as is well known, the everyday name for the nightingale is *luscinia* or *lusciniola*, but in the Romance languages the corresponding names have regularly an initial *r*-, as in *rossignol*, *rossignuolo*, and others.

This paper is an attempt to interpret the glossema above, with its association of the *acalanthis*, *luscinia*, and *ruscinia*, and to present two or three possible theories for the shift from *l*- to *r*- in the two forms. It assumes that the initial *r*- in the Latin variants is the source of the *r*- in the later Romance forms. It attempts to treat the matter, in a broad way, with a glance at the natural history, the folk lore, and the poetic associations, which are inseparably connected with the problem. The subject is of no great importance, and is perhaps justified only in the light of the rather considerable occasional literature that has grown up about it.

The last discussion, so far as I know, is by Professor E. W. Fay, in *Modern Language Notes*, xviii, 195. He also limits the problem to Latin times, and asserts the conviction that the explanations of the shift from *l*- to *r*- in the Romance languages, which attempt to trace the *r*- forms from *luscinia*, are beside the mark. He states the problem with the query "will not the variation of *l*- and *r*- in the Romance languages meet its most satisfactory, as well as its simplest, explanation by appealing to *ruscinia* as a popular etymology, in Low Latin times of *luscinia*?"

He then attempts to establish this popular etymology by supposing that the nightingale frequents the *ruscus* of ancient times, now known as *ruscus aculeatus* (thorn-bush or butcher's broom), which is, we may add, a low shrub found distributed over large areas in Southern Europe. Thus in popular parlance the true name *luscinia*, shifted to *ruscinia*, connoting the 'thorn-bush-singer,' because of this assumed direct association of the nightingale with the shrub *ruscus*.

¹Reprinted from the Transactions of the American Philological Association, Vol. XXXVIII, 1908.

First, however, before discussing in detail Professor Fay's hypothesis, for the sake of completeness, an earlier theory should be examined in this connection. This was first suggested, I believe, by Grammont, in his monograph, *La Dissimilation consonantique*. It is based upon the theory that the *r*- in the derivatives of *hirundinella* may have changed the *l*- of *lusciniola* through the association of the two birds. While preferring this theory, Grammont apparently did not wholly give up the idea that the shift in question may be due to initial dissimilation in the original *lusciniolum* (*op. cit.* 118). Grammont seems to have been unacquainted with the glosses, for he ignores them and apparently assumes that the shift took place after Roman times. The most cogent points of contact cited by him are the myth of Philomela and Progne, the association of the two birds as harbingers of spring, and the association of the *rossignol de muraille* and the *hirondelle* in the country life of modern France.

His evidence for the shift, taken as a phenomenon of the later times, is inadequate and unconvincing. The average reader will agree with Gaston Paris, *Journal des Savants*, Février, 1898, where, in a review of Grammont's work, he refers to both hypotheses: "M. Grammont, tout en croyant que les formes romanes de *lusciniolum* qui remplacent l'*r* initiale par une *l* peuvent être dues à une dissimilation, préfère expliquer l'*r* par l'influence de *hirundinem*. Cette hypothèse me paraît peu vraisemblable; mais il faut réellement admettre que l'*r* de *rossignol* et de ses pareils n'est pas due à la dissimilation, puisqu'on rencontre en bas latin la forme *roscinia*, où la dissimilation ne saurait être en cause." The statement of the distinguished reviewer is seemingly conclusive for the dissimilation theory. In the earlier life of Roman times, however, the association of the two birds was so intimate and many-sided that the association theory must not be so hastily dismissed. The Romance forms for *hirundo* — *rondinella*, *rondola*, and others—may point to a common, perhaps dialectic, byform of *hirundinella* without the initial syllable. Similar cases of procope are easily found. Even in the realm of popular ornithological nomenclature an example is not wanting. Ernout, *Le Parler de Préneſte d'après les Inscriptions*, 16, gives among others, *conea* as the Praenestine form for *ciconia*, 'stork.' His source, of course, is the well-known passage from Plautus, *Truc.* 688:

AST. Perii, 'rabonem.' quam esse dicam hanc beluam?
 Quin tu arrabonem dicis? STR. 'A' facio lucri,
 Ut Praenestinis 'conea' est ciconia.

If *ciconia* was shortened to *conea*, *hirundinella* shortened to *rundinella* is not surprising. Now, would (*hi*)*rundinella* react upon *lusciniola* and produce the result sought for? With no theory to prove, Otto Keller, *Thiere des classischen Alterthums*, 319, remarks, "Einer der eigenthümlichsten und bei andern Völkern nicht vorkommenden ist die enge Verwandschaft Philomelens mit der Schwalbe; sie beruht auf manchen Berührungspunkten, in welchen die beiden Vögel nach der Anschauung des Alterthums zusammentrafen."

Let us examine this in some detail. First there is the well-known myth of Philomela and Progne. In nearly all Greek writers Philomela is the swallow, and Progne the nightingale. In this connection we should note that they are *sisters*, the daughters of Pandion. In nearly all Roman writers these names are reversed, which, again, was a constant source of the confusion. In the sixth Eclogue of Virgil, Philomela seems best taken as the swallow, following the Greek tradition. Yet the ambiguity of the whole passage is such that Conington leaves it with the remark that it "certainly looks like a confusion of the habits of the nightingale and swallow." The same ambiguity appears in Hor. *Od.* iv, 12, and in a most remarkable way in Sen. *Her. Oet.* 200 ff. Much of this confusion in the Roman poets is due, doubtless, to the fact that the habits of the two birds and the dramatic incidents of the metamorphosis were never, in fact could not be, completely harmonized.

In the fourth Georgic Virgil clearly follows the Roman tradition and makes Philomela the nightingale. A later writer, however, speaks of Philomela as the swallow, "who, trustful bird that she is, hangs her nest in the homes of men." Virgil has the swallows in mind in the two graceful lines:

Evandrum ex humili tecto lux suscitât alma
Et matutini volucrum sub culmine cantus.—*Aen.* VIII, 455.

Both birds were thought of as harbingers of spring, like the robin and bluebird in our own Eastern States. For the nightingale in this regard, cf. Hom. *Od.* xix, 519; Arist. *Av.* 684; Sapph. fr. 39. Among the Romans the swallow, here, plays the chief rôle. Among many other passages the following are rather striking:

Ver blandum viget arvis, et adest hospes hirundo.
—VARRO, *Sat. Inc.*, Baehrens, *P. L. M.* IV, 223.

Te, dulcis amice, reviset,
Cum Zephyris, si concedes, et hirundine prima.
—HOR., *Epist.* I, 7, 12-13.

Fallimur, an veris praenuntia venit hirundo
 Nec metuit, ne qua versa recurrat hiemps?
 Saepe tamen, Progne, nimium properasse quereris,
 Virque tuo Tireus frigore laetus erit.

—Ov., *Fast.* II, 853 ff.

The two birds seem to have been associated in the rites of Adonis, which were celebrated in the early springtime. Cf. Thompson, *Glossary of Greek Birds*, 13-14.

The element of sadness in the songs of the two birds was well-nigh universally recognized as a common trait throughout the poetry and lore of both Greeks and Romans. Among the latter this idea so outshadows all other attributes of the nightingale's song that *luscini*a itself seems best taken as **luges-cinia*, the 'grief-singer.'¹

Pischinger, in his monograph, *Der Vogelgesang bei den griechischen Dichtern des klassischen Alterthums*, shows that this tone of sadness is, perhaps, the most common trait in the songs, not only of the nightingale and swallow, but also of the halcyon and swan. This attitude was based upon a conception of the song as an outpouring of grief, supposed to be felt by the unfortunate metamorphosed being, whose life had been merged in that of the bird in question. In this regard the Roman poets followed the Greek tradition almost *in toto*. For the nightingale's song from this point of view, cf. Cat. 65, 13; Verg. *Ecl.* 6, 78; *Geor.* iv, 511; Prop. iii, 11, 4; Ov. *Tr.* ii, 389; *Fast.* iv, 481; *Am.* ii, 6, 6; Mart. xiv, 75; *Cons. ad Liv.* 105; *Pervig. Ven.* 86. In several of these citations (and there are others) the nightingale is clearly portrayed, as we should expect, as singing by *night*, a fact which adds point to the remark of Keller (*op. cit.* 467): "Sprachwidrig ist die gewöhnliche, auch bei Weise, *Griechische Wörter im Latein*. S. 107, wieder vorgebrachte Etymologie von *lux* und *canere*." This derivation, with its companion **luscicinia*, 'the twilight-singer,' strangely enough, continues to find defenders. Walde, *Lat. etymologisches Wörterbuch*, s. v., wavers between the two.

The more modern touch of joy in the song, as in the following passage, is relatively speaking very rare in the ancient poets:

Ceu patrio super alta grues Aquilone fugatae
 cum videre Pharon, tunc aethera latius implent,
 tunc *hilar*i clangore sonant; iuvat orbe sereno
 contempsisse nives et frigora solvere Nilo.

—STAT., *Theb.* XII, 515.

¹Vid. s. v. LUSCINIA.

Evidently as a mourner, and a singer of sad funereal refrains, we find the *luscini*a portrayed in the wall-paintings of Roman grave monuments. The *hirundo* plays the same part; in fact, on Sophocles' tomb we are told that a swallow was represented. A Roman grave on the Via Latina has the two birds side by side, and an accompanying distich gives their names. This association of the two birds with the dead can rest only upon the ancient feeling that there was inherent sadness in their songs. This feeling, no doubt, also underlies several of the bird metamorphosis myths, for without this assumption they cannot be rationalized.

The describing epithets of the two birds are interchanged in such a way as to defy, at times, all rational individual identification. Both, for example, are lugubrious, both are garrulous, both in Greek are ξουθός in song and color.

In Moschus (if the text be sound) the two birds are associated in the same habitat, and to-day, according to Kaup's *Thierreich*, in both Greece and Italy the swallow (*hirundo urbica*) and the nightingale frequent in strikingly common proximity the same chosen localities.

And lastly, to add one more touch of contact, we are told by Artemidorus that in the dream lore of the Greeks the two birds have almost the same symbolism. Thus much for the lore. For several of the above and many other points of association, vid. Keller, op. cit. 315.

I can at this time point to only one close parallel in Latin for such a shift of the initial *l-* to *r-*, due to association. Porphyrio, on Hor. *Epist.* ii, 2, 209, seems to imply that the festival of Lemuria was called Remuria by the people, who associated the festival, with its appeasing of ghosts, *lemures*, with Remus and the walls where he met his death. Tradition, too, ascribed the origin of the festival to Romulus. Cf. Otto Keller, *Lateinische Volks-Etymologie*, 40.

This theory for the change, through association, is attractive, and to some it may appear adequate and convincing, yet is it cogent enough to have produced the change demanded? If we accept it, how shall we explain the presence of the bird *acalanthis* in the glosses and in a Servian note to be presented immediately?

This much, however, is certainly true, that if the origin of the form *ruscini*a can be established on some other theory which will more nearly meet all the phases of the problem, then the absolutely unique associations presented in support of Grammont's theory may well have been a very strong influence in sustaining the parallel forms in *r-*.

To return now to Professor Fay's suggested solution of the problem;

namely, that the form *ruscinia* is due to the direct association, in the folk-etymology, of the nightingale with the *ruscus*. In the *Cl. Rev.* XVIII, 307, he repeats this hypothesis and adds that "he will be grateful for any evidence to confirm or disprove the fact supposed; namely, that the butcher's broom (*ruscus aculeatus*) in Southern Italy is a favorite haunt of the nightingale."

This hypothesis is very plausible. It meets the philological situation admirably, and we must be grateful to Professor Fay for suggesting it. There is, however, one thing against it which will soon appear. Not trusting my own amateurish observations of the bird in question, which did not confirm the theory in hand, I asked my colleague, Professor Harold Heath, who was spending a year at Naples in the International Zoölogical Station of that city, to observe the nightingales, especially in relation to their supposed association with the *ruscus*.

I am deeply grateful to him for his report, which is further confirmed by the following note from Professor Umberto Pierantoni, a distinguished professor of zoölogy at the University of Naples.

"The nightingale," says Professor Pierantoni, "is very common in Italy. It is *not* found in the plant (*ruscus aculeatus*), but dwells among the high trees, frequenting especially the poplar tree. It lives also in the forests, near humid places, where it breeds in May, and sings preferably during the spring, in the evening and by night." Professor Pierantoni's observation seems conclusive as regards the problem before us, and at the same time adds new reality to part of Virgil's beautiful though touching scene in the fourth Georgic, where he portrays the nightingale in a poplar tree bemoaning the loss of her nestlings.

Considering all the evidence, the writer is inclined to believe that the following may well be the true solution of the difficulty. The name *ruscinia* was first applied by the people to a bird which really does frequent in great numbers the wide areas of *ruscus* so common everywhere in Italy. This bird was known also to the more learned, by the Greek name *acalanthis*. This bird was then associated in the folk-observation with the nightingale, and in time from this association and the popular confusion of the two birds, the name *ruscinia* was applied also to the nightingale. This theory explains the associations in the glossary: *acalanthis*, *vel luscinia vel ruscinia*, *nectigal*. Such confusions are commonplaces in ornithological nomenclatures. Our own mocking-bird furnishes many parallels. In many parts of this country the brown-thrush, likewise a great singer and mimic, is dubbed the French mocking-bird. In other parts the name "mocking-bird" is applied to two different

species of wrens remarkable for the sweetness of their songs. In England the name "mock-nightingale" is frequently applied to the black-cap and to the sedge-warbler. The latter, in fact, furnishes almost a complete parallel to the case in hand. The bird is called the sedge-warbler from its habitat. So the ruscinia, by our theory. It is then named the mock-nightingale from the sweetness of its song. So the ruscinia may well, from its song, have been associated with the real nightingale (luscinia), resulting at last in a confusion of the former name with the original (luscinia) until the two existed side by side as names for the nightingale. If other parallels are needed, one may instance the cardinal grosbeck, which in the East is very commonly known as the Virginia nightingale, while in France the redstart is commonly called the *rossignol de muraille*.

The real identification of the acalanthis is, however, as yet uncertain. Thompson in his *Glossary of Greek Birds*, and Neri in his monograph *Gli animali nelle opere di Virgilio*, identify it with the goldfinch. This is not fully convincing, on grounds which I cannot discuss at this time. Warde Fowler, though in this regard not so well known in this country, is an ardent observer of the ways of birds. In one of the charming books, which have resulted from this delightful pastime, *A Year with the Birds*, 243, he makes a very strong case for identifying the acalanthis as one of the warblers. He notes in passing that at least one of the silvidae, the sedge-warbler, oftentimes carries its song far into the night.

Aristotle, *Hist. Anim.* ix, 17, speaks thus of the acalanthides: *κακόβιοι καὶ κακόχροοι, φώνην μέντοι λιγυράν ἔχουσιν*. These words might be applied equally as well to the nightingale. No bird of equal fame is perhaps less known from actual observation. It should be remembered also that the nightingale is not a thrush, but one of the silvidae, or warblers. Pliny, *N. H.* x, 205, has *acanthis in spinis vivit*. The acanthis is the same as the acalanthis. Another gloss from Goetz gives us this information, *acalanthis avis vepribus adsueta*. Both words, *spinis* and *vepribus*, are in harmony with and point to *ruscus*. *Ruscus* is glossed in Du Cange as *μυρρινακάνθος*, which again points to the bird acalanthis, just as *ruscus*, by the theory under discussion, points to the ruscinia.

Now if the luscinia and acalanthis were confused, we should expect to find traces of very high appreciation for the song of the latter bird. This is exactly what we do find. There were, as we have already noted, only four bird-singers of high esteem among the Greek and Roman poets. It was well-nigh impossible for others to break into this highly esteemed traditional group. We need not, therefore, be surprised that only two references to the acalanthis occur in the Roman poets. The lesser first:

Nyctilon ut cantu rudis exsuperaverit Alcon?
 Astyle, credibile est, si vincat acanthida cornix,
 Vocalem superet si dirus aedona bubo.—CAL. *Ecl.* 6, 5.

These associations, of course, are symbolical of the impossible. Here the songs of the acalanthis and the nightingale are obviously taken as types of the highest beauty in bird-song, in antithesis to the "raucous calls" of the cornix, and the "lugubrious plaints" of the owl. Erasmus classified the above as popular proverb. The association of the acalanthis and nightingale on the same side of the equation is instructive. The more so if we recall that here the acalanthis takes a place in the proverb usually held by another of the immortal four.

Tum tenuis dare rursus aquas, et pascere rursus
 solis ad occasum, cum frigidus area vesper
 temperat, et saltus reficit iam roscida luna,
 Litoraue alcyonem resonant, acalanthis dumi.
 —VERG., *Geor.* III, 338.

Here we have in Virgil a calm summer scene. Evening approaches. The background of bird-song is portrayed without its usual touch of sorrow, as, for example, in Hor. *Epod.* 2, 26, who in a somewhat similar situation uses *queruntur* of the birds as they sang. Cf. also Ov. *Her.* 15, 151. The association here of the acalanthis with the halcyon, again in company with one of the immortal four, indicates Virgil's high appreciation of the little singer. As Glover points out, it may well be a reminiscence in the master poet's mind of his boyhood days on the banks of the Mincio. There are only these two references in the Roman poets. But surely if two appreciative nature poets like Virgil and Calpurnius thought so highly of the acalanthis, there is nothing *a priori* improbable in a confusion of the birds and a blending of their names in the folk-mind and observation. Virgil says that the *dumi*, *i. e.* the thickets, resound. This word and its parallel *dumetum* are glossed by ἀκανθέων, which again points to the bird acalanthis. In this connection Warde Fowler, referring to Lenz, *Botanik der Griechen*, observes that the word ἀκανθίς in Greek does not necessarily mean the thistle, but is applied to all kinds of thorny trees and shrubs, such as the *dumi* in which Virgil makes the voice of the bird resound.

I do not believe for a minute that Virgil confused the acalanthis and nightingale. He was far too good an observer for that. But later, as we should expect, if our hypothesis be correct, others *did* confuse the two birds. Observe now, in view of our discussion, what Servius says in a

note on the *acalanthis* passage in hand: *Acalanthis alii lusciniam esse volunt, alli . . . carduelim*. This means, if it means anything at all, that in the time of Servius the confusion assumed as the source of *ruscinia*, and clearly implied in the glosses, was already in evidence. On this hypothesis alone can we explain the glosses and this Servian note, with their double association, of *luscini*a on one hand and *acalanthis* on the other. If this theory for the origin of *ruscinia* be accepted, its survival in the *r*- forms of the Romance languages seems to present no serious difficulty.

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2, 502	167	3, 752	66	5, 1078	9
2, 503	89	4, 180	92	5, 1082	69
2, 799	63	4, 544	91	5, 1083	68
2, 806	168	4, 640	79	5, 1084	75
2, 820	74	4, 683	27	9, 900	33
3, 6	122	4, 1007	9	5, 1099	109
3, 7	86	5, 1076	144	6, 673	33
3, 751	8	5, 1077	109	6, 747	72

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1, 335	86	1, 778	74	5, 487	40
1, 337	89	2, 31	86	5, 558	21
1, 342	40	5, 378	194		

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1, 7	56, 66, 165	6, 75, 1	211	11, 104, 9	65
1, 53, 7	74, 86	7, 14	56, 165	12, 65, 8	65
1, 53, 9	138	7, 20, 6	211	12, 31, 6	58
1, 53, 10	185	7, 20, 15	213	13, 5	96
1, 109	165	7, 87, 1	124	13, 45	15
1, 109, 2	65	7, 87, 6	184	13, 49	96
1, 115, 1	100	8, 6, 10	67	13, 50	211
1, 115, 2	85	8, 28, 11	63	13, 52	25
2, 37, 1	159	8, 28, 13	85	13, 53	213
2, 40, 1	212	8, 32	61	13, 58	30
3, 43	86	9, 2, 4	181	13, 61	42
3, 47, 10	212	9, 12, 1	181	13, 65	174
3, 58, 12	16, 177	9, 13	106	13, 66	56
3, 58, 13	168	9, 31, 5	30	13, 67	55, 159
3, 58, 18	58, 66, 215	9, 43, 1	80	13, 68	99
3, 58, 19	162	9, 54	149	13, 70	169
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3, 60, 5	185	9, 54, 9	184	13, 72	175
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3, 68, 13	29	9, 101, 7	205	13, 74	27
3, 77, 1	211	9, 104, 2	89	13, 75	106
3, 82, 8	178	10, 3, 6	195	13, 76	174, 198
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3, 93, 12	25	10, 19	32, 37	13, 92	211
3, 95, 1	76	10, 19, 10	31	14, 67	170
4, 66, 6	212	10, 51	134	14, 73	195
5, 7, 1	181	10, 51, 4	138	14, 74	76
5, 37, 1	93	10, 65, 12	38, 66	14, 75	240
5, 37, 12	168	10, 67, 5	69	14, 76	185
5, 50	37	10, 100, 3	38, 155	14, 77	165
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5, 67	117, 134, 229, 233	11, 21	158	14, 216	12
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1, 625	169	2, 269	211
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2, 147	10	2, 363	10
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1, 8, 13	200	2, 6, 17	192	2, 6, 55	169
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1, 10, 3	89	2, 6, 27	79	2, 6, 56	65
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Fast.,

1, 151	112	2, 243	78	5, 584	38
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1, 155	225	2, 250	78	5, 732	40
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1, 157	233	2, 853	112, 238	6, 131	200
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1, 441	28	3, 36	189	6, 173	42
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1, 451	56	3, 53	189	6, 175	103
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1, 601	74	3, 115	40	6, 177	168
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2, 89	10, 72, 154	3, 241	226	6, 196	40
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5, 669	184	7, 368	59	12, 15	165
5, 329	78	7, 371	88	12, 564	35
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1, 393	37	7, 187	189	11, 580	205
1, 394	31, 35	7, 411	41	11, 721	10, 12, 66
4, 462	43	7, 699	90	11, 751	31, 34, 37
5, 213	64	8, 455	116, 239	12, 244	37
5, 250	37	8, 652	27	12, 247	31, 35
5, 254	31	9, 560	34, 36, 85	12, 247	85
5, 488	67	9, 563	32, 35	12, 250	31
6, 190	55	10, 189	88	12, 473	114
6, 308	203	10, 263	103		
6, 310	229	11, 271	94, 95		

Ecl.,

1, 18	70	6, 79	134	9, 14	70
1, 57	161	8, 55	216	9, 35	29
1, 58	214	8, 455	238	9, 36	29, 86
3, 68	158	9, 11	35		
6, 78	95, 240	9, 13	66		

Geor.,

1, 119	108	1, 388	69	2, 328	22, 225
1, 307	101	1, 389	69	3, 335	7
1, 360	41, 97, 144	1, 398	18	3, 338	243
1, 373	101, 229	1, 401	153	4, 13	118, 152
1, 377	117	1, 406	110	4, 473	229
1, 378	22	1, 410	75	4, 511	134, 240
1, 381	75	2, 197	83		
1, 386	69	2, 310	51		

Cat.,

9, 27	89
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Cir.,

489	30	497	110	529	31
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Cul.,

237	217	251	134	253	95
250	129				

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ACCELERATION
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CEPHALOPODA

BY
JAMES PERRIN SMITH
PROFESSOR OF PALEONTOLOGY

WITH FIFTEEN PLATES

(ISSUED APRIL 14, 1914)

STANFORD UNIVERSITY, CALIFORNIA
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Aen.,

1, 392	85	6, 595	217	11, 456	84
1, 393	37	7, 187	189	11, 580	205
1, 394	31, 35	7, 411	41	11, 721	10, 12, 66
4, 462	43	7, 699	90	11, 751	31, 34, 37
5, 213	64	8, 455	116, 239	12, 244	37
5, 250	37	8, 652	27	12, 247	31, 35
5, 254	31	9, 560	34, 36, 85	12, 247	85
5, 488	67	9, 563	32, 35	12, 250	31
6, 190	55	10, 189	88	12, 473	114
6, 308	203	10, 263	103		
6, 310	229	11, 271	94, 95		

Ecl.,

1, 18	70	6, 79	134	9, 14	70
1, 57	161	8, 55	216	9, 35	29
1, 58	214	8, 455	238	9, 36	29, 86
3, 68	158	9, 11	35		
6, 78	95, 240	9, 13	66		

Geor.,

1, 119	108	1, 388	69	2, 328	22, 225
1, 307	101	1, 389	69	3, 335	7
1, 360	41, 97, 144	1, 398	18	3, 338	243
1, 373	101, 229	1, 401	153	4, 13	118, 152
1, 377	117	1, 406	110	4, 473	229
1, 378	22	1, 410	75	4, 511	134, 240
1, 381	75	2, 197	83		
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Cat.,

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Cir.,

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Cul.,

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250	129				

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Acceleration of Development in Fossil Cephalopoda

JAMES PERRIN SMITH.

IDEAL RECAPITULATION IN PROGRESSIVE FORMS.

IN THE development of organisms there are two theoretical extremes, the one with simple persistence without modification, the other with complete modification. The former is almost realized in the Protozoa, the latter is approached by the higher vertebrates. All other organisms, in their development, fall somewhere between the two extremes, coming into being in simpler form, and becoming more complex in the course of life. Each starts out on somewhat the same plane of development as its distant ancestors, inheriting potentially all the characters of all its ancestors, tending to take on some characters that its ancestors never had, and to transmit the old and the new to its own posterity.

Theoretically, each organism ought to recapitulate all its race history, each stage of growth corresponding in character and in size to successive ancestral forms. This is true, in a general way, in some groups, for most later members of genetic series have increased in size with increased complexity of development.

FIG. 1.



This is partly true even of the highly specialized Cephalopods, for there is a constant tendency to increase in size from the simple *Goniatites* of the Devonian to the complex *Ammonites* of the Jurassic. The increase in size accompanying the addition of ontogenic stages is especially striking in a primitive genetic series of genera near each other in time, and relatively near the beginning of the race, as in the lineage of *Goniatites*–*Gastrioceras*–*Columbites*.

But even in these, while there is in general a constant increase in size of the successive mature forms, there is a much more rapid decrease in size of the corresponding growth stages. This fact is illustrated by the accompanying diagram, showing a constantly lengthening ontogeny

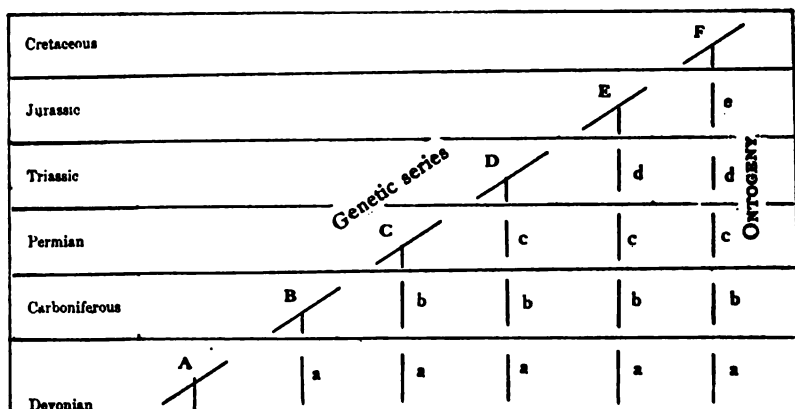
FIG. 2.



as more stages must be passed through before maturity is reached.

The contrast between the size of mature *Goniatites* of the Paleozoic and that of the goniatite stages of later Mesozoic *Ammonites* is even greater; see for example the development of *Goniatites* of the Carboniferous (Pl. I, figs. 1-9), and of *Placenticeras*, (Pl. XIII, figs. 22-28), a Cretaceous genus. The same thing is seen in the development of the genetic series leading up to *Columbites* of the Lower Triassic. Its immediate ancestor, *Gastrioceras*, of the Carboniferous, when mature might reach a diameter of several inches, as shown on Pl. I, figs. 10-14; but the adolescent *Columbites*, (Pl. IV, figs. 1-10), ceased to resemble *Gastrioceras* at a diameter of about ten millimetres. And *Tropites*, a still later descendant of the same stock, in the Upper Triassic, ceased to show the gastrioceran characters at a diameter of three millimetres, (Pl. IV, figs. 11-21).

FIG. 3.



In a genetic series of progressive forms all individuals in their development should start out, theoretically, from the same stage, since all must develop from an egg. Each individual would have to pass through in its growth from the egg to maturity all the stages that the successive generations of mature forms passed through during the long history of the race. Characters that were present at maturity in the ancestors should appear by palingenesis in the development history of the descendants, and the cœnogenetic, or later characters, should gradually be pushed back into the ontogeny.

In a general way, too, this is true. As, for instance, in the Ammonoid stock the primitive simple shell, with its calcareous protoconch and siphuncle, when once introduced as a cœnogenetic or secondary character, persists throughout the history of the race, becoming a primary character, and finally appearing only as a palingenetic character in some of the modern cephalopods. All this is seen in the history of the race from the primitive *Orthoceras* of the early Paleozoic, with its chambered shell and siphuncle, but without the calcareous protoconch or embryonic shell. Some members of the *Orthoceras* group finally acquired a calcareous protoconch, and this soon introduced with it another cœnogenetic character, the marginal position of the siphuncle, forming the group of *Bactrites* (Pl. XIV, fig. 7), which was to become the starting point for the Ammonoids and the Belemnoids. Some *Bactrites* began to become coiled, and developed into the primitive Goniatites, (*Mimoceras*, Pl. XIV, fig. 8). Others remained straight, but began to cover up the slender shell with the mantle, and finally to secrete a secondary covering of lime to protect it, growing into the race of Belemnites. But even in the Belemnites the chambered shell, inherited from the parent *Orthoceras* is still retained as a youthful character, once cœnogenetic, but now so long present in the race history that it is pushed back into the larval stages, and finally appears as a mere reminiscence only in the embryology of some sepioids.

The cœnogenetic lime secretion that covered the chambered shell of the Belemnites has had a similar history, disappearing in most modern forms, but retained as a vestigial character in the cuttlefish "bone."

All characters were once secondary or cœnogenetic, and all may become primary, and finally vestigial.

LOST STAGES.

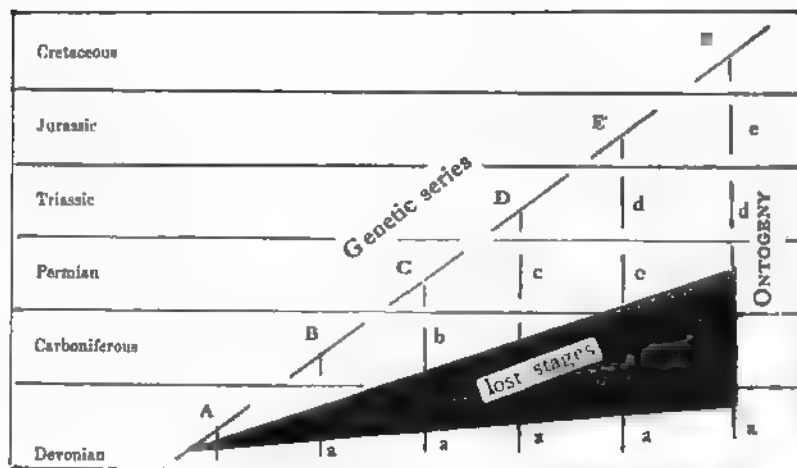
But recapitulation in later forms is by no means so simple as suggested by the diagram given above; the ontogeny is abbreviated, and the successive forms do not repeat their full history. There is a constant loss of stages or characters all along the race history, they being pushed back and crowded out of the ontogeny, as Hyatt expressed it.

All Goniatitids must have sprung from a *Bactrites* radicle, but only one, *Agoniatites*, shows a *Bactrites* stage. No later genera have even a reminiscence of it, so completely is it lost from the ontogeny. Probably all later Goniatitids had for their ancestor the group of *Anarcestes*, and yet the *Anarcestes* stage persists only in Devonian and a few Carboniferous genera, being lost, or buried, in the development of later groups.

The first stage of growth in the shell of all Ammonoids is the protoconch; this is an adapted form, suitable to life in the egg, not corresponding to any ancestral form, yet remaining the same in all genera. It even keeps its minute size, about a half millimetre in diameter, whether the mature form is a pygmy of half an inch or a giant of six feet. The earliest stages of growth of several genera of Ammonites are shown on Pl. XIII.

Much of the ancient history is gone through while the animal is in the egg, and thus obscured or even obliterated, even in living forms. In fossil forms it is wholly lost to us. And after the embryonic stage is passed, it is advantageous to the young animal to shorten, or at least, not to prolong, the larval development, during which it is helpless and at the

FIG. 4.



mercy of enemies. Thus, even after the egg-stage, characters will be eliminated, or, at any rate, so obscured that they can not be recognized. So the diagram should show a constant shortening or eliminating of stages at the lower end of each ontogeny, corresponding to the egg development. It should also show a constantly increasing length of ontogeny, probably not in time, but in the number of stages gone through, and hence, by inference, an ever increasing rapidity of development. From this idea came Hyatt's name "tachygenesis." Thus, for example, the development becomes successively more complex in *Bactrites*, *Anarcestes*, *Goniatites*, *Gastrioceras*, *Columbites*, *Tropites*, all steps in the same series, even with the complete elimination of the earlier stages; while the actual length of the larval stage was probably not greater in *Tropites* than in *Bactrites*. Mesozoic genera, as a rule, show scarcely any reminiscences of ancestors older than the Carboniferous, except in the case of fixed or left-over types, such as *Lecanites*, which has persisted into the Middle Triassic with characters little in advance of its Devonian ancestor.

Paleozoic and early Mesozoic genera repeat, in their ontogeny, their ancestral history with a fair degree of exactness, for they are not yet greatly affected by unequal acceleration of development, and scarcely at all by retardation or arrest of development. Their ontogeny is beautifully simple and direct, and in them it is easy to find genetic series of adult genera with which to compare the ontogenic series of stages in any species. Such simple development and positive recapitulation is shown in *Goniatites* of the Carboniferous, (Pl. I, figs. 1-9); *Cordillerites*, (Pl. XII, figs. 1-8), and *Ussuria*, (Pl. XI, figs. 1-14), of the Lower Triassic. Distinct recapitulation with considerable acceleration is shown in the ontogeny of *Columbites* of the Lower Triassic, (Pl. IV, figs. 1-10); in the same genetic series, *Tropites*, (Pl. IV, figs. 11-21), of the Upper Triassic, shows a recapitulation of nearly all the ancestral characters, but much obscured by unequal acceleration, or "telescoping" of characters and stages of development.

In later Mesozoic genera the recapitulation of phylogeny in ontogeny is not so distinct, since all the disturbing factors have combined to obscure the record. All have still a goniatite stage at the beginning of their larval development, but in Cretaceous genera it is no longer possible to point out with certainty the particular ancestral goniatite genus. The young of all that have been examined resemble the Carboniferous family Glyptoceras, which may mean that all Cretaceous ammonoid genera came from that stock, or else, more probably, that the round form

was the safest for the larva. This would make the larval stages of these later forms almost wholly adaptive and cœnogenetic. This is illustrated by the development of *Schloenbachia*, (Pl. XIII, figs. 16-21), *Placenti-ceras*, (Pl. XIII, figs. 22-28), and *Lytoceras*, (Pl. XIII, figs. 10-15), all of the Upper Cretaceous, in which the larval stages are very much alike, although the phylogeny of the three genera is very different. *Lytoceras* goes back in an unbroken genetic series to the Lower Triassic, and probably sprang from some Carboniferous member of the Prolecanitidæ. *Placenti-ceras* is a phylogerontic form of the Stephanoceratidæ, most likely an offshoot of the Tropitoidæ of the Triassic, and hence of the Glyphioceratidæ. If this is true it has every right to resemble the Carboniferous genus *Goniatites*. The case of *Schloenbachia* is not so clear, but it is probable that this genus is an offshoot from the Triassic Ceratitoidæ, and hence from still a third Paleozoic phylum, the Gephyroceratidæ.

Sharply contrasted with this uncertain and garbled recapitulation of their ancient history is their positive testimony as to their immediate ancestry. And what is true of these three genera chosen for illustration is true of all Cretaceous Ammonites. This is reflected in the lack of agreement in their classification by various authors, and the utter failure to construct a satisfactory family tree for them. *Lytoceras* and *Phylloceras* are the only Cretaceous genera of which we know positively the genealogy; in fact they are almost the only Jurassic genera of which this is true.

UNEQUAL ACCELERATION.

Useful characters tend to be inherited by the succeeding generations at constantly earlier stages, and finally may appear, in the ontogeny of later groups, simultaneously with characters that belonged to other genera in the genetic series. In other words, the growing young shell is not strictly in sequence *Anarcestes*, *Goniatites*, *Gastrioceras*, *Columbites*, *Tropites*, the family line, stretching from Devonian to Upper Triassic, but has in the successive stages some resemblance to each of them, with few characters lost, rather obscured by association with other characters that were not synchronous with them. The characters of later genera do, indeed, appear successively in ontogeny, but some appear at earlier and still earlier periods of growth, until they may even get back into the larval stages. Thus the keel, which is a late character of the Tropitidæ, having been developed only towards the end of the Middle Triassic, is pushed

back in the ontogeny of *Tropites*, until it appears in the larval stage, associated with septa like those of the Devonian *Anarcestes*, and form and sculpture like that of the Carboniferous *Gastrioceras*. The ontogeny of *Tropites* is shown on Pl. IV, figs. 11-21, where it may be compared with the simpler development of *Columbites*. The ontogeny of the ancestral *Goniatites* is shown on Pl. I, figs. 1-9.

In a like manner, in the development of *Clionites*, (Pl. XV, figs. 1-12), the ventral furrow, which is a late or cœnogenetic character of the group *Trachyceras*, is accelerated in inheritance until it appears in association with characters belonging to genera far below *Trachyceras* in the series. The term, "telescoping," which has been applied by Grabau to this phenomenon is graphic, but hardly accurate enough for use in strictly scientific nomenclature.

FIXED TYPES.

The first step towards degeneration is cessation of progress, seen in the case of all persistent types. Such types may become finally "left overs," fixed in the ancestral characters, anachronisms, or "contemporary ancestors." They usually become dwarfed, or at least seem so, for they retain the small size of the ancient forms, of which they are the unmodified, or little modified descendants. Such types among Ammonites are *Lecanites* and *Nannites*, which persist until the Middle Triassic with the characters of Devonian and Carboniferous genera. (See Pl. III, figs. 1-3, Pl. III, figs. 4-8, for the characters of these genera). These dwarf genera are represented by few species at any time in their later history, showing by their very fewness the lack of that virility which is characteristic of progressive forms. Their ancestors, the *Goniatites*, and their contemporary kinsfolk, the highly specialized Ammonites, are both characterized by abundance of individuals, species, and genera. *Nannites* and *Lecanites* are "poor-relations," few, small, and unimportant, though wonderfully interesting, for they give us an insight into the beginning of the phenomenon of degeneration.

STRETCHING THE ONTOGENY.

The next step towards degeneration consists in prolonging the ontogeny, as when a specialized group remains longer in the larval and adolescent stages than did its ancestors, while finally reaching to the full perfection that they had attained. The best example of this is seen in

the development of *Ceratites* in the Germanic basin in the Middle Triassic.* Here we have a group descended from *Meekoceras* of the Lower Triassic, and in general as far removed from that genus in specialization as in time, but delaying in the *Meekoceras* stage, retaining until almost mature many of the characters of that genus, and scarcely progressing beyond it at maturity.

Pavlov** has observed a similar phenomenon in the Ammonites of the Lower Cretaceous of Russia. In both cases we have a beginning of degeneration caused by unfavorable conditions of life in basins partly shut off from the sea. A beginning of this stretching of the ontogeny is seen in *Trachyceras* of the Upper Triassic (Pl. XV, figs. 13-16), where stages that had long been obsolete in the group persist almost until maturity, probably brought out by atavism.

ARREST OF DEVELOPMENT.

† The next step in degeneration is arrest of development, where the youthful stages are prolonged, and the form on reaching maturity finally fails to reach the complete development of that species, and does not attain to the complexity of its immediate ancestors. Such cases are known in the Brachiopods, where in a living species sexual maturity may be reached in stages much lower in specialization than the normal mature form, so much so that these stages have even been described as independent genera. Such arrested forms may even give rise to a stock that never reaches the full generic evolution of its ancestors.*

Dr. C. E. Beecher** has aptly described this same phenomenon: "In each line of progression in the Terebratulidæ the acceleration of the period of reproduction, by influence of environment, threw off genera which did not go through the complete series of metamorphoses, but are otherwise fully adult, and even may show reversional tendencies due to old age; so that nearly every stage passed through by the higher genera has a fixed representative in a lower genus. Moreover, the lower genera are not merely equivalent to, or in exact parallelism with, the early stages

*See E. R. Philippi, Die Ceratiten des oberen deutschen Muschelkalkes. Pal. Abhandlungen von Dames und Kayser, Bd. VIII, Heft 4, 1901, p. 359.

**Le Crétacé inférieur de la Russie et sa Faune. Nouv. Mém. de la Soc. Impér. Nat. Moscou. Tome XVI, 1901, Part I, p. 62.

*Fischer and Oehlert, Brachiopodes, Mission Scientifique du Cap Horn, p. 50-60.

**Amer. Nat., vol. XXVII, 1893, p. 603.

of the higher, but they express a permanent type of structure, so far as these genera are concerned, and after reaching maturity do not show a tendency to attain higher phases of development, but thicken the shell and cardinal process, absorb the deltidial plates and exhibit all the evidences of senility."

E. D. Cope,* too, has expressed himself clearly on this question: "The acceleration in the assumption of a character, progressing more rapidly than the same in another character, must soon produce, in a type whose stages were once the exact parallel of a permanent lower form, the condition of inexact parallelism. As all the more comprehensive groups present this relation to each other, we are compelled to believe that *acceleration* has been the principle of their successive evolution during the long ages of geologic time. Each type has, however, its day of supremacy and perfection of organism, and a retrogression in these respects has succeeded. This has, no doubt, followed a law the reverse of acceleration, which has been called *retardation*. By the increasing slowness of the growth of the individuals of a genus, and later assumption of the characters of the latter, they would be successively lost." This statement of Cope might apply equally well to unequal acceleration or "telescoping" of characters, but in another part of the same work he gives a clearer statement:* "Where characters which appear latest in embryonic history are lost, we have simple retardation, that is, the animal in successive generations fails to grow up to the highest point of completion, falling further and further back, thus presenting an increasingly slower growth in the special direction in question."

Examples of arrest of development are very common among the Ammonites, especially towards the end of the history of stocks. These, naturally, are more common and better known in the Jurassic and Cretaceous, where the family history is not so well understood, and where it is not possible to correlate the arrested stages with ancestral genera.

Lecanites and *Nannites*, of the Triassic, are regarded by some authors as cases of reversion by arrest of development, but the writer regards them as fixed persistent types. Much better illustrations are found in the great families, Tropitidæ and Ceratitidæ, of which the genealogy is well known, and where the arrested stages may be compared with antecedent genera in the same line. Among the Tropitidæ the development

*Origin of the Fittest, p. 142.

*Op. cit., p. 13.

of *Metasibirites*, *Homerites* and *Leconteia*, illustrates clearly arrest of development, with accompanying retardation of characters, and partial reversion to ancestral types.

Metasibirites is a dwarf, degenerate genus, confined to the Upper Triassic, in India, California, and the Alps. The ontogeny of only the American species has been published, but the statements made here are based on the development of several American species, of which only two have been described, *Metasibirites (Tardeceras) parvus* H. and S., and *M. (Tropiceltites) Frechi* H. and S. (Pl. VII, figs. 1-10). In early youth *Metasibirites Frechi* is a typical *Gastrioceras*, with broad low trapezoidal whorls, strong umbilical knots, frequent constrictions, and simple goniatitic septa. Towards maturity the whorls become higher, the sculpture begins to run up the sides, and ribs begin to develop from the knots, which themselves become weaker and often obsolete. These ribs run up to and finally across the venter. But before this is complete a weak keel appears, bounded in some cases by weak furrows. The keel speedily becomes obsolete, often disappearing entirely at maturity. When nearly mature the shell in nearly all its characters is a minature of *Acrochordiceras* of the Middle Triassic, but the septa remain goniatitic, or at least only very weakly serrated.

This is not a persistence of *Sibirites* from the Lower Triassic, but an arrest of progress so that some of the characters fail to get beyond the complexity that they had in that genus. In other characters the genus has gone beyond *Sibirites*, in some respects even fallen short of it. The genetic series of adult forms is as follows: *Pericyclus* of the Subcarboniferous developed into *Gastrioceras*, which in turn changed over into *Sibirites* of the Lower Triassic; this by gradually increasing strength of sculpture and increasing complexity of septa developed into *Acrochordiceras*. There the stock became partly degenerate and development was arrested: The forms affected failed to grow up to the size and complexity of the immediate ancestor, *Acrochordiceras*, but stopped nearly in the *Sibirites* stage of development, and in some characters even reverted to the more remote ancestor, *Pericyclus*.

The tendency to form a keel was strong in nearly all the groups of the Tropitoidea, and crops out weakly here in the temporary development of the vestigial keel. No member of *Sibirites* or *Acrochordiceras* ever possessed a keel, so its development in *Metasibirites* can hardly be charged to palingenesis of this character by heredity from some long dead Lower or Middle Triassic form. It is rather a manifestation of a latent

But in all speculations on the phylogeny of Cretaceous genera we must not forget that there still exists a great gap in our knowledge of the connections between Triassic and later groups, and that some of the stocks may possibly have lived on in unknown regions, to reappear in later ages so greatly modified that their ancestral history comes out only in their reversion to the parent type, when senescence has awakened the latent tendencies of their far distant youth. A case that may illustrate this is the parallelism of *Paratissotia* of the Cretaceous, Pl. X, figs. 8-10, with *Otoceras* of the Lower Triassic, Pl. X, figs. 6 and 7. *Otoceras* belongs to the family Hungaritidae, the most ancient line of the Ceratitoidae, and *Paratissotia* belongs to the Amaltheidae, which are thought by some to have come from the Ceratitidae. In this case the parallelism may be due to atavism.

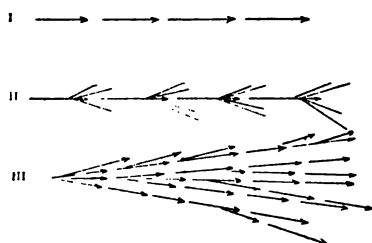
In the cases discussed above, generic persistence from the Permian until the Upper Cretaceous is out of the question, and even the families referred to have not outlived the Triassic in most cases. But the Cretaceous forms must have had Paleozoic and early Mesozoic ancestors which were in the transition between the goniatitic, ceratitic and ammonitic stages of development. And being all somewhat retarded, and in most cases affected by arrest of development, it is highly probable that they would revert to some of the characters of those remote progenitors.

GENETIC SERIES.

Ever since the acceptance of the theory of evolution, genetic series have been sought by geologists with more or less success. Waagen's studies in the *Formenreihe* of *Oppelia*, and Hyatt's "Genesis of the Arietidae" have become classic. But some more conservative paleontologists have always cherished secret doubts of the demonstration, while admitting the truth of the principle. It is extremely doubtful if we can establish any genetic lines of species, or that we can ever tell from which particular species a certain genus originated. Did it, indeed, come from only one? What the paleontologist sees is rather a group of species tending in somewhat the same direction; and those species most alike he classes, for convenience, under one genus. Further, the conservative paleontologist can not always point to the individual genus from which another genus sprang; and if he does he is probably mistaken. Every virile progressive stock is characterized by its wealth in variation, its genera and species as we grade them, any one of which, or all of which, might have been ancestors of later forms.

There are three sorts, or rather ideas, of genetic series, as shown by the accompanying diagrams. No. I, on the diagram, where we have a narrow straight line of connected genera or species, would show straight natural selection, if this were in harmony with the evidence of paleontology, but it is not.

FIG. 5.



No. II in the diagram gives the commonly accepted idea of a genetic series. Hyatt's genesis of the Jurassic Ammonites proposes such a genetic line, and derives all the later forms from *Psiloceras*, which is itself a degenerate. I have always agreed with Steinmann in thinking that this idea was improbable, to say the least. We find early in the Lower Jurassic the Arietidae distributed in Europe, Asia, North and South America, and the Indian Ocean; hence it is unlikely, leaving morphology out of the question, that the rare dwarf *Psiloceras* of the Mediterranean Region was the parent of this varied progeny. The theory expressed in No. II in the diagram has always reminded the writer very forcibly of the Noachian fable in the history of the human race.

No. III in the diagram shows the conditions as the paleontologist finds them, regardless of any theory. He sees a number of species in a genus, and a number of genera, in a family, all tending in somewhat the same direction, as he traces them upwards through the geologic ages. He finds no complete unbroken series, but a series of steps.

Is this orthogenesis? In a general way it is, although giving a name to a phenomenon is not giving an explanation. There are only certain lines of variation possible, and when the organism starts out with certain characters it can vary only in more or less definite directions, some of which will coincide in different species, genera, and families. There need not be any mysterious force directing the evolution; it may be merely the limitations of the characters of the organisms.

The best genetic series of Ammonoids are found in the Paleozoic and early Mesozoic. There we get a nearly unbroken series of adult forms that show by their sequence and intergradation that they are genetically connected. In most of these genera we have also their individual development repeating the ancestral history, not the whole history distinctly, but that part nearest to them most positively. Such a series leads from the Glyptioceratidae through *Gastrioceras* of the Carboniferous, to *Columbites* of the Lower Triassic, and up to the Tropitidae of the Upper Triassic. The writer is strongly of the opinion that this phylum will yet be traced still higher, into the Arietidae and Stephanoceratidae of the Jurassic.

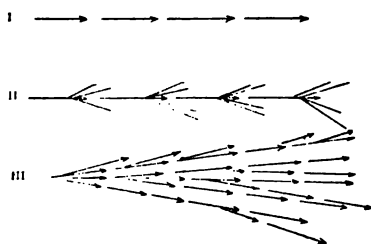
Such a series is seen also in the Ceratitoidea. The parent, or radicle, of this group, *Lecanites*, as we know it in the Triassic, is still virtually a Goniatite, with simple unbranched septa, and repeats the race history of the Devonian Gephyroceratidae. The more primitive members of the Meekoceratidae of the Permian and Lower Triassic repeat this part of the history, and all show a distinct *Lecanites* stage. The earlier members of the *Ceratites* are still nearly smooth, and intergrade with the later members of the Meekoceratidae, still showing in their youth a decided reminiscence of *Lecanites*. From the earlier and simpler smooth *Ceratites* there branched out two groups of rough shelled forms, one leading towards the keeled *Ceratites*, group of *C. trinodosus*, the other leading through the group of *C. bosnensis* to the Trachycerata, all connected by series of mature forms, but not showing their phylogeny in their ontogeny, except in cases of arrest of development and retardation.

The division between Permian and Triassic was a deadline for most Paleozoic groups; on the one side we have rugose corals and tabulates, on the other the modern Hexacoralla; on the one side *Productus* and *Orthis*, on the other a predominance of Terebratulacea and Rhynchonellacea; on the one side Palaeocrinoidea, on the other Neocrinoidea. It is not so with the Ammonoids, for in them there is a nearly perfect transition, not with any species, but with a number of genera surviving from Permian into the Lower Triassic, and with many getting across the line so little modified that, while we call them by different generic titles, they are still virtually the same as their Paleozoic forebears.

The following genera survive from Permian into the Triassic: *Otoceras*, *Hungarites*, *Xenodiscus*, *Xenaspis*, *Pronorites*, *Medlicottia*

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(*Episageceras*), *Lecanites* (*Paralecanites*), *Dalmatites*, *Popanoceras*, *Celtites* (*Paraceltites*).

The following Permian genera had reached a stage of development as high as that of Triassic forms, but are not yet known in Triassic faunas: *Cyclolobus*, *Waagenoceras*, *Thalassoceras*, *Stacheoceras*. The following genera appear at the very bottom of the Triassic, already fully developed, and must have existed somewhere during Permian time, although they are not yet known in any Permian faunas: *Ussuria*, *Columbites*, *Monophyllites*, *Nannites*, *Meekoceras*, *Flemingites*, *Hedenstroemia*, *Pseudosageceras*, *Ophiceras*, *Aspenites*, *Lanceolites*, *Cordillerites*. *Kymatites* and *Ambites* of Waagen may not be goniatitic survivors from the Permian faunas, but merely Meekoceratidae in which the lobes have not been well preserved on account of weathering. The later groups, such as *Proavites*, *Metasibirites*, *Paraganides*, *Tornquistites*, *Dieneria*, *Leconteia*, *Tropiceltites*, *Styrites*, *Polycyclus* and *Lobites*, all of which are as simple as Permian forms, are merely cases of arrested development and reversion.

Karpinsky's* work in tracing the Ammonoids of the Carboniferous into the Permian, and comparison of ontogeny with phylogeny, has given us our most convincing example of real genetic series. The work of J. P. Smith** has carried our knowledge of the Ammonites further back into the Carboniferous, and later he has traced many of the Carboniferous genera and families into the Triassic,* combining the study of ontogeny and phylogeny.

The monographs of Diener, von Krafft, and Waagen, on the Lower Triassic Cephalopoda of India, of Kittl and von Arthaber on those of the Mediterranean Region, have added greatly to our knowledge of the transitional faunas at the border-line between Paleozoic and Mesozoic, and out of them have come some real genetic series. The combined result of all this work is given here in the form of a table showing the relationship of the early Mesozoic Ammonoids to those of the Paleozoic.

*Ueber die Ammoneen der Artinsk-Stufe, Mém. Acad. Impér. Sci. St. Pétersbourg, 7th Ser. Vol. XXXVII, No. 2, 1889.

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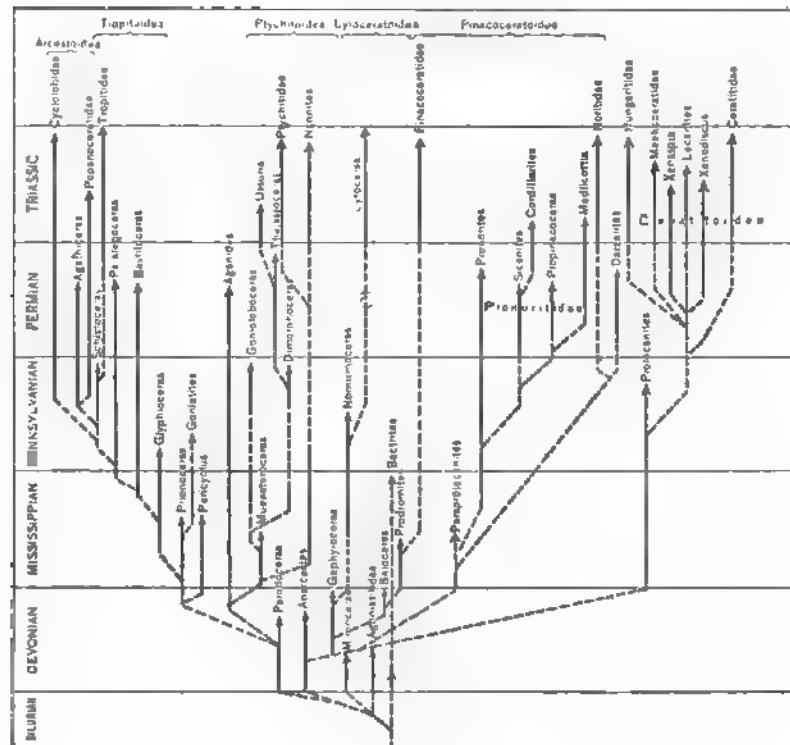


FIG. 6.

It is not complete, and is, of course, subject to constant revision, but it does show probable genetic series, in the light of our present knowledge of the subject.

In his studies of the genealogy of Jurassic and Cretaceous genera Steinmann* has gone to great lengths in finding genetic connections with Triassic genera, where connecting links are absolutely unknown, and extremely improbable. In some instances he does make a strong case for relationship, but none for generic persistence. The doubtful relation-

*Rassenpersistenz bei Ammoniten. Eine Erwiderung. Centralblatt für Geol. Min. und Pal. 1909, No. 8, pp. 199-203, and 225-232; and in Probleme der Ammoniten-Phylogenie (Gattung Heterotissotia), Niederrhein. Gesell. für Natur. etc. 1909, pp. 1-16; also in Die Abstammung der "Gattung Oppelia" Waagen. Centralblatt für Geol. etc. 1909, No. 21, pp. 641-646.

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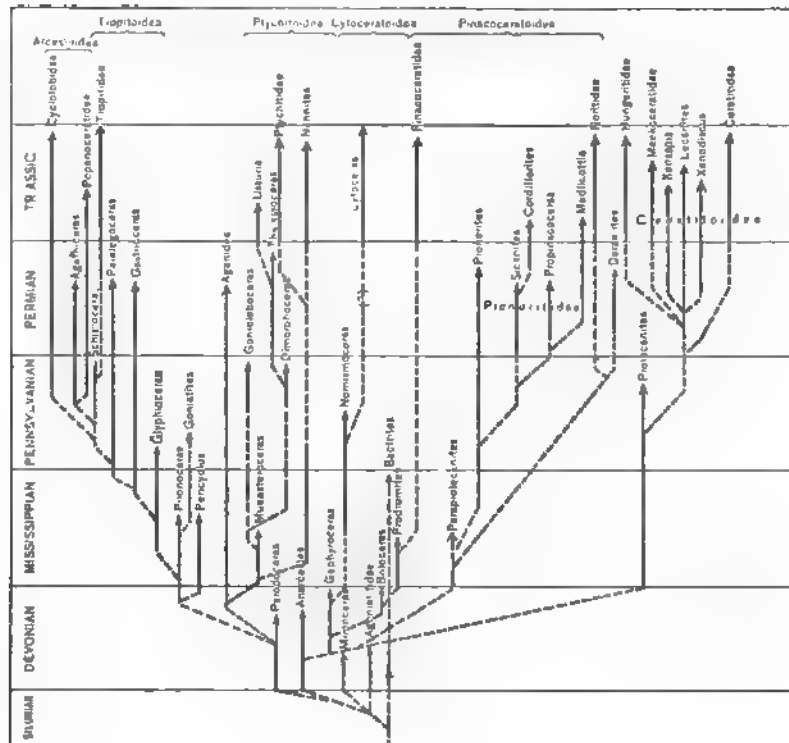


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ships he brings out may be explained much better on the basis of reversion by arrest of development, as has already been shown under the head of reversion.

CONVERGENCE.

It is impossible to conceive of the same species or genus as originating in different times, or in different places. But natural selection sorts out certain characters, or environment calls them out, and so we often get very similar results from diverse materials. Similarity of habit produces external, but not fundamental, similarity of characters. In the case of forms living together in time and place, convergence may well be due to mimicry, and thus explained by natural selection. But where the forms are separated by geologic ages, mimicry can not be appealed to.

In the case of reversion by arrest of development we have a virtual reappearance of generic types in widely separated epochs. Only, when we know their history, we do not call the aggregation of characters by the same generic names, especially since the reversionary forms are usually easily to be distinguished from the older types. Thus *Arpadites*, Pl. VIII, figs. 1-10, and *Beyrichites*, Pl. VIII, figs. 14-23, both show a partial reversion towards their ancestor *Meekoceras*, yet neither genus need be confused with the ancient progenitor.

Convergence is sometimes seen in widely separated stocks and in widely separated times. *Eutomoceras* of the Middle Triassic, Pl. IX, figs. 5-7, the end genus of the *Dalmatites-Hungarites* stock, has been confused with the Upper Triassic *Discotropites* (Pl. V, figs. 1-13), a late member of the genetic series leading up from *Gastrioceras-Columbites* to the *Tropitidæ*. Ontogeny shows the heredity of the two genera to be different back to the Devonian. Their resemblance can hardly be due to atavism, for their development is not parallel, as both genetic series of adults and ontogeny of each generic step show. It can also hardly be due to natural selection, for along with these keeled members of each stock there are numerous others without keel, as the geologic record shows, equally prosperous and prolific. It is also not due to the inheritance of this character from a common ancestor, for the remote ancestors were not common, and did not possess the keel, anyway.

Again, we may have parallel development of very similar characters in nearly related stocks. As an example of this may be cited the development of the ventral keel in the *Dalmatites-Hungarites-Eutomoceras* phylum, and the same thing in the *Meekoceras-Ceratites* line. *Eutomoceras*

has a keeled lineage extending back to the Devonian, while the keeled *Ceratites* extend no further back than Middle Triassic. But the tendency to form a keel sometimes crops out even in the ancestry of *Ceratites*, since at least one species of *Lecanites* has shown this character. And both stocks appear to have come from the same Devonian genus, *Gephyroceras*, *Ceratites* from the main group, and *Eutomoceras* from the keeled subgenus *Timanites*, as shown in this series:

Gephyroceras-Lecanites-Meekoceras-Ceratites;

Timanites-Dalmatites-Hungarites-Eutomoceras;

Timanites-Aspenites-Hedenstroemia-Pinacoceratidae.

It would seem that there may have been in the descendants of the Gephyroceratidæ a strong tendency to form keels. This was already present in *Timanites*, a subgenus and contemporary of *Gephyroceras*, and is continuous in the Hungaritidæ and Hedenstrœminæ, which branched out from *Timanites*, as shown in *Longobardites*, Pl. IX, figs. 14-16. The same character appears belated in the keeled *Ceratites*, certainly not inherited from the collateral *Timanites* branch, and not known to have been present in the ancestor of the two stocks.

Equally difficult to explain is the apparent genesis of the polyphyletic genus *Trachyceras* from the two lines, one from *Meekoceras-Ceratites*, the other from *Tirolites*. To state that both lines had a strong tendency to develop rough shells, a median furrow, and complex septa does not explain the phenomenon. Nor yet does it explain the strong resemblance of mature *Sagenites* of the Tropitidæ to *Trachyceras*, so strong, in fact, that careful paleontologists have confused them, although their ontogeny separates them at once.

The term *orthogenesis* is a statement of a fact, rather than an explanation. Ammonites have developed constantly in certain directions, in form and ornamentation of the shell, and increasing complexity of septation, in parallel series coming from the same or nearly related ancestors, as well as in series coming from different ancestors. In neither case are the characters hereditary, though in both cases the tendency to develop those characters seems to have been hereditary. Genera derived from nearly related ancestors have frequently become more alike with the lapse of time, and this has also occurred often with genera whose ancestry was wholly different. This has made the study of Ammonite-phylogeny exceedingly difficult; in it fact and fancy have been so mixed that it has sometimes been called the "happy hunting ground" of theorists. But it has also been the happy hunting ground

of observers of fact. Along with speculations concerning the phylogeny of the Ammonites there has been a much greater mass of painstaking accurate systematic work, by which species have been carefully recorded, variation and morphology studied most minutely, and a wealth of material amassed for the use of the philosophic student of evolution.

CONCLUSION.

It may be that, when this paper is read by ardent members of the "Hyatt school" of paleontologists and adherents of the biogenetic law, they will be inclined to call the writer a deserter from the camp, and to suggest that the paper ought to have been entitled, "Why recapitulation does not recapitulate." The writer is still a firm believer in the biogenetic law, but that law is not such a simple thing as it was once thought to be. In the youth of every theory everything is beautifully clear, and ideally simple. As time goes on we are compelled to drop one idea after another, until it almost seems that the whole will be lost. When sceptics concerning the recapitulation theory throw up to us that ontogeny does not *always* recapitulate phylogeny, we are prepared to admit this, even to go further and admit that it does not *often* recapitulate. In fact, the writer would be prepared to go still further, and to state that, in the sense in which the term has been used by most adherents of the theory, it *never* recapitulates. Our over-zealous friends have claimed too much, and have done more to prevent general acceptance of the theory than a host of enemies.

ILLUSTRATIONS.

Diagram, showing ideal recapitulation, with corresponding stages of growth of the same size. Text-figure No. 1.

Diagram, showing corresponding stages of growth in later forms reduced in size. Text-figure No. 2.

Diagram, showing theoretical recapitulation of phylogeny in ontogeny. Text-figure No. 3.

Diagram, showing actual recapitulation of phylogeny in ontogeny, with lost stages. Text-figure No. 4.

Diagram, showing genetic series, I showing theoretical straight natural selection; II showing periodic branching out from radicles; III showing orthogenetic series as seen in the paleontologic record. Text-figure No. 5.

Diagram showing the family tree of the Paleozoic and early Mesozoic Ammonoid genera, showing the complex branching, and parallel development of groups that are usually classed together. Text-figure No. 6.

Orthoceras, Pl. XIV, fig. 1, a representative of the ancestral radicle of the Cephalopoda.

Cyrtoceras, Pl. XIV, figs. 2 and 3, a transitional group, intermediate between *Orthoceras* and *Nautilus*.

Gyroceras, Pl. XIV, fig. 4, a further development towards *Nautilus*.

Nautilus (Discites), Pl. XIV, fig. 5, a close-coiled Paleozoic member of the nautiloid group.

Bactrites, Pl. XIV, fig. 7, the primitive ancestral stock of the Ammonoidea, transitional from the orthoceran group.

Mimoceras, Pl. XIV, fig. 8, a primitive Goniatite, the probable ancestral type of most of the Goniatitidae, transitional from *Bactrites*.

Gephyroceras, Pl. III, figs. 9-11, the goniatite ancestor of the Ceratitoidea.

Aganides, Pl. I, figs. 15 and 16, a primitive member of the Glyphioceratidae, possibly transitional from Gephyroceratidae.

Lituities, Pl. XIV, fig. 6, a reversionary Nautiloid, striking back towards *Orthoceras*.

Timanites, Pl. III, figs. 12-14, the Paleozoic goniatite ancestral stock of the Hungaritidae, transitional from *Gephyroceras*.

Goniatites, Pl. I, figs. 1-9, a group transitional from the Goniatites to the Ammonites; the distant ancestral stock of Tropitidae and Arcestidae.

Gastrioceras, Pl. I, figs. 10-14, a progressive development from the Goniatites; the family radicle of Tropitidae and Arcestidae; a form with the septation of a Goniatite, but with the sculpture and inner structure already advanced to the stage of Ammonites.

Paralegoceras, Pl. II, figs. 1-5, a more advanced member of the gastrioceran stock, showing the advance towards becoming an Ammonite.

Schistoceras, Pl. II, figs. 6-13, a direct transition from the Glyphioceratidae towards the Tropitidae.

Waagenoceras, Pl. X, fig. 12, a late Paleozoic member of the Arcestidae, showing an advance to Mesozoic characters.

Ussuria, Pl. XI, figs. 1-14, transitional Ammonite, showing distinct recapitulation of race history in ontogeny.

Cordillerites, Pl. XII, figs. 1-8, transitional from Goniatite to Ammonite, showing simple and direct recapitulation in ontogeny.

Pronorites, Pl. XII, figs. 9-12, ancestral stock of *Cordillerites*.

Aspenites, Pl. IX, figs. 1-4, transitional from Gephyroceratidae to Pinacoceratidae, showing strong reminiscences of the Devonian radicle, *Timanites*.

Meekoceras, Pl. VII, figs. 1-12, the primitive stock of Ceratitidae, connecting this group with *Lecanites*, the family radicle.

Inyoites, Pl. IX, figs. 8-13, an accelerated member of the Hungaritidae, showing convergence with the stock of Tropitidae.

Paranannites, Pl. XI, figs. 15-20, a primitive progressive link between *Nannites* and the Ptychitidae.

Columbites, Pl. IV, figs. 1-10, a primitive Ammonite, transitional from *Gastrioceras* to Tropitidae, showing simple recapitulation; this is the probable radicle of *Tropites* and its near kindred, and connects them with the Glyphioceratidae.

Lecanites, Pl. III, figs. 1-3, an unprogressive or persistent form, an Ammonite retarded in the Goniatite stage of development, probably representing the radicle of the Ceratitoidæ, and connecting them with the Gephyroceratidæ.

Nannites, Pl. III, figs. 4-8, a persistent, unprogressive type, a Mesozoic Ammonite retarded in the Paleozoic Geniatite stage of development; probably representing the radicle of the Ptychitidæ.

Tropites, Pl. IV, figs. 11-21, a progressive Ammonite, showing distinct recapitulation, but with very unequal acceleration, or "telescoping" of characters and stages of development.

Lytoceras, Pl. XIV, fig. 10, a persistent group of Ammonites, lasting with little change throughout the Mesozoic.

Longobardites, Pl. IX, figs. 14-16, family Pinacoceratidæ.

Eutomoceras, Pl. IX, figs. 5-7, family Hungaritidæ.

Discotropites, Pl. V, figs. 1-13, family Tropitidæ.

Paratropites, Pl. V, figs. 14-19, family Tropitidæ.

Ceratites, Pl. V, figs. 20-26, family Ceratitidæ.

Gymnotropites, Pl. VIII, figs. 11-13, family Tropitidæ.

Illustrating convergence in different stocks, in the development of the keel and sculpture. A good example of orthogenetic evolution.

Paraganides, Pl. VI, figs. 22-26, family Ptychitidæ, retarded and reversionary to the primitive Glyphioceran stock.

Leconteia, Pl. VI, figs. 11-15, family Tropitidæ.

Metasibirites, Pl. VI, figs. 1-10, family Tropitidæ.

Homerites, Pl. VI, figs. 16-21, family Tropitidæ.

Arpadites, Pl. VIII, figs. 1-10.

Beyrichites, Pl. VIII, figs. 14-23.

Reversionary, by arrest of development; showing vestigial characters, and probable orthogenesis in closely allied stocks.

Showing reversion to the ancestral *Meekoceras*, in some characters.

- Schloenbachia*, Pl. XIII, figs. 16-21.
Lytoceras, Pl. XIII, figs. 10-15.
Placenticeras, Pl. XIII, figs. 22-28.
- (Showing similarity of
 young stages, due to
 adaptation in stocks
 that are wholly distinct.
 The young stages are
 probably cœnogenetic.
- Baculites*, Pl. XIII, figs. 1-9, a reversionary form from *Lytoceras*.
Trachyceras, Pl. XV, figs. 13-16, one of the most highly specialized of the Ceratitidae; showing the beginning of arrest of development in the prolongation of the entogeny, and persistence of the ancestral *Tirolites* stage throughout adolescence.
Clionites, Pl. XV, figs. 1-8, a retarded descendant of *Trachyceras*, reversionary by arrest of development toward *Tirolites*.
Clionites (*Californites*), Pl. XV, figs. 9-12, a form still more strongly reversionary than the preceding species, with almost complete palinogenesis of *Tirolites* characters, but with inheritance of the trachyceran furrow and sculpture from its immediate ancestor; these are characters that *Tirolites* never had.
Otoceras, Pl. X, figs. 6 and 7, a transitional Permian genus.
Paratissotia, Pl. X, figs. 8-10, a Cretaceous genus, arrested in development, and showing atavistic reversion to characters very like those of *Otoceras*.
Waagenoceras, Pl. X, fig. 12, a Permian genus, primitive and progressive.
Sphenodiscus, Pl. X, fig. 11, a Cretaceous genus, arrested in development, and showing a close approach to the septation of *Waagenoceras*. These two genera do not belong to the same line of descent, hence the convergence is not due to atavism.
Heterotissotia, Pl. X, figs. 2-4, a Cretaceous genus, showing arrest of development, and reversion to some form like *Ceratites*, but probably not to any member of the Ceratitidae.
Ceratites, Pl. X, fig. 15, a Triassic genus, like the reversionary forms of later Cretaceous groups, the "Pseudoceratites."
Neolobites, Pl. X, fig. 1, a Cretaceous genus, showing arrest of development and reversion to the Goniatite stage, though probably not to any known Paleozoic genus.

EXPLANATION OF PLATES.

PLATE I.

Goniatites crenistria Phillips, Lower Carboniferous, Arkansas.

Fig. 1, a-j, development, shown in septa, from protoconch to maturity.

Fig. 2, early larval stage, diam. 0.47 mm.

Figs. 3 and 4, larval stage, diam. 0.92 mm.

Figs. 5 and 6, adolescent stage, diam. 1.29 mm.

Figs. 7-9, adult shell and septa.

A highly specialized Goniatite, and a representative of the group radicle of the Tropitidae and Arcestidae among the Mesozoic Ammonites.

Gastrioceras Listeri Martin, Coal Measures, Arkansas.

Figs. 10-11, adult shell.

A still more highly specialized Goniatite, showing further progress toward the Tropitidae.

Gastrioceras Branneri Smith, Coal Measures, Arkansas.

Figs. 12-14, adult shell and septa.

Aganides rotatorius de Koninck, Lower Carboniferous, Indiana.

Figs. 15 and 16, adult shell.

The genera illustrated on this plate show the stage of evolution of the common Carboniferous groups, and the early ancestral types of the Arcestidae and the Tropitidae.

All figures on this plate are from J. P. Smith, Carboniferous Ammonoids of America, Mon. XLII, U. S. Geological Survey, 1903.

PLATE I.

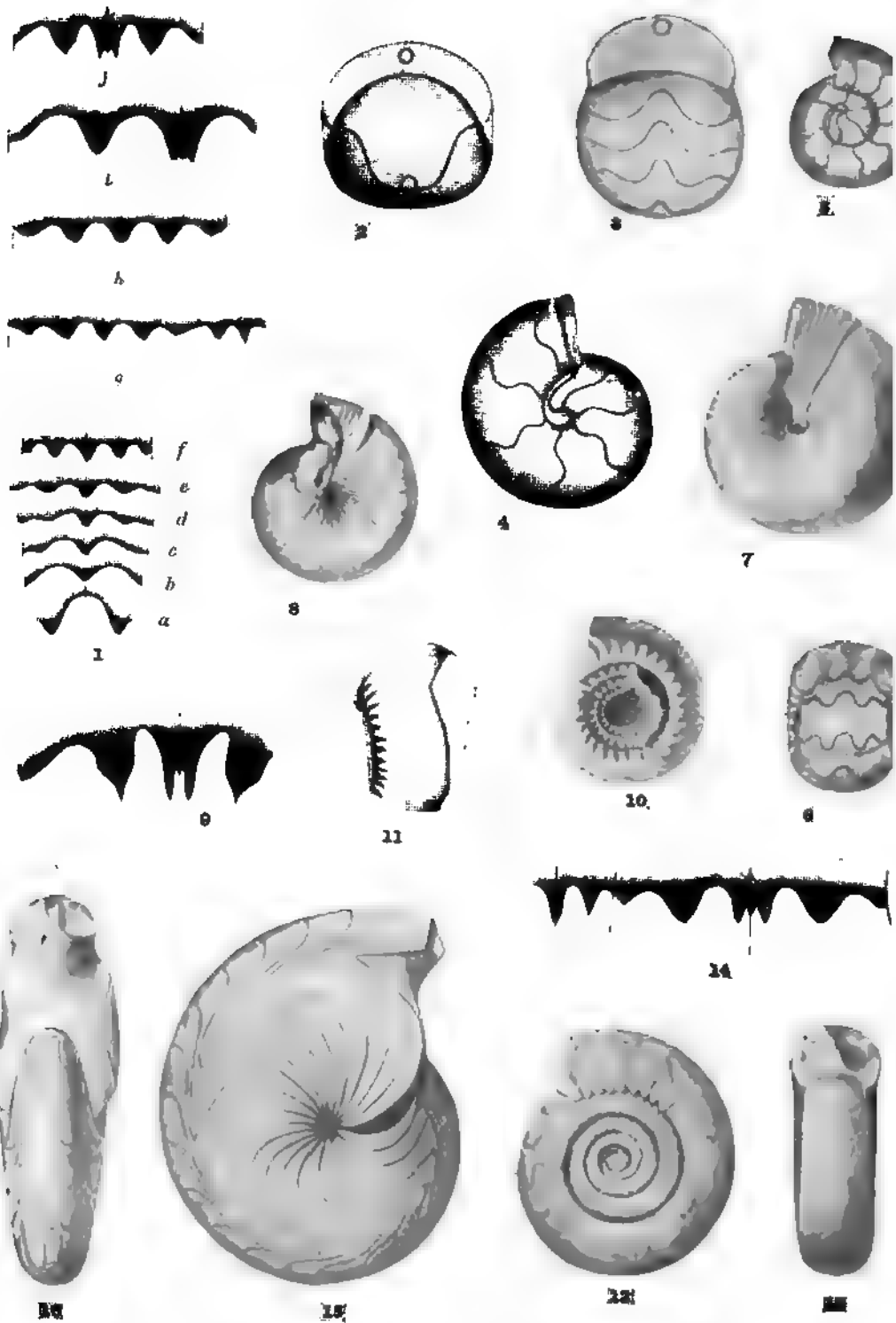


PLATE II.

Paralegoceras iowense Meek and Worthen, Coal Measures, Iowa.

Fig. 1, adult specimen.

The two species of *Paralegoceras* figured on this plate show a transition from *Gastrioceras* to *Schistoceras*.

Paralegoceras Newsomi Smith, Coal Measures, Arkansas.

Figs. 2-4, adult shell and septa.

Fig. 5, adolescent stage.

Schistoceras Hildrethi Morton, Coal Measures, Ohio.

Figs. 6 and 7.

The three species of *Schistoceras* figured on this plate show a distinct step toward the Arcestidae, although it is not probable that any one of them was the family radicle.

Schistoceras fultonense Miller and Gurley, Coal Measures, Illinois.

Figs. 8-10.

Schistoceras Hyatti Smith, Coal Measures, Texas.

Figs. 11 and 12, adult shell and septa.

Fig. 13, adolescent stage.

The genera illustrated on this plate show an advance of the Glyphioceratidae towards the Arcestidae and the Tropitidae.

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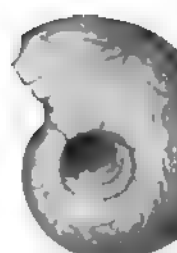


PLATE III.

Lecanites Vogdesi Hyatt and Smith, Middle Triassic, Nevada.

Figs. 1-3, adult stage, showing persistence in the Goniatite stage, a beginning of arrest of development. This species retains many of the characters of *Gephyroceras* of the Devonian.

Nannites Dieneri Hyatt and Smith, Lower Triassic, California.

Figs. 4-8, adult stage, showing persistence in the Goniatite stage, a beginning of arrest of development, but without reversion. This species retains many of the characters of the group of *Gastrioceras globulosum* of the Carboniferous.

Gephyroceras uchtense Keyserling, Upper Devonian, Russia.

Figs. 9-11, adult stage. A primitive radicle, like the ancestor of the Meekoceratidae and Ceratitidae.

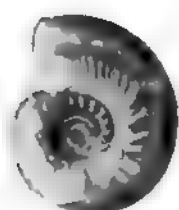
Timanites acutus Keyserling, Upper Devonian, Russia.

Figs. 12-14. A primitive Coniatite, a lateral branch of *Gephyroceras*, and the probable ancestor of the Hungaritidae and of the Sageratitidae.

Figs. 1-8, from Hyatt and Smith, Triassic Cephalopod Genera of America.

Figs. 9-12, from E. Holzapfel, Die Cephalopoden des Domanik im südlichen Timan. Mém. Com. Géol. (St. Petersburg), Vol. XII, No. 3. 1899.

PLATE III.



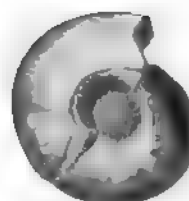
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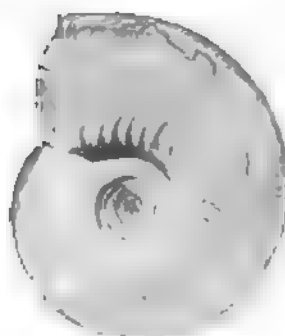
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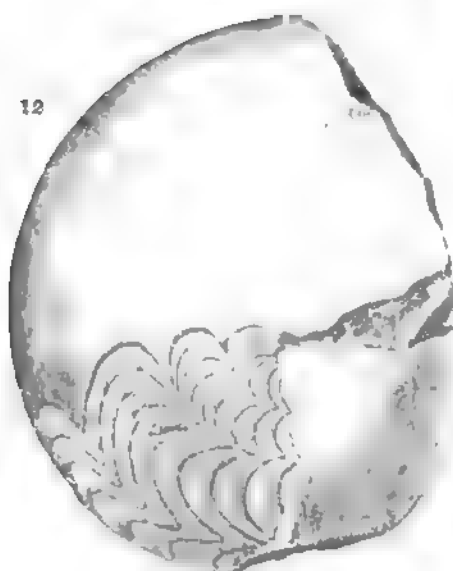
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- Cordillerites*, Pl. XII, figs. 1-8, transitional from Goniatite to Ammonite, showing simple and direct recapitulation in ontogeny.
- Pronorites*, Pl. XII, figs. 9-12, ancestral stock of *Cordillerites*.
- Aspenites*, Pl. IX, figs. 1-4, transitional from Gephyroceratidae to Pinacoceratidae, showing strong reminiscences of the Devonian radicle, *Timanites*.
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- Inyoites*, Pl. IX, figs. 8-13, an accelerated member of the Hungaritidae, showing convergence with the stock of Tropitidae.
- Paranannites*, Pl. XI, figs. 15-20, a primitive progressive link between *Nannites* and the Ptychitidae.
- Columbites*, Pl. IV, figs. 1-10, a primitive Ammonite, transitional from *Gastrioceras* to Tropitidae, showing simple recapitulation; this is the probable radicle of *Tropites* and its near kindred, and connects them with the Glyphioceratidae.

Lecanites, Pl. III, figs. 1-3, an unprogressive or persistent form, an Ammonite retarded in the Goniatic stage of development, probably representing the radicle of the Ceratitidae, and connecting them with the Gephyroceratidae.

Nannites, Pl. III, figs. 4-8, a persistent, unprogressive type, a Mesozoic Ammonite retarded in the Paleozoic Geniatite stage of development; probably representing the radicle of the Ptychitidae.

Tropites, Pl. IV, figs. 11-21, a progressive Ammonite, showing distinct recapitulation, but with very unequal acceleration, or "telescoping" of characters and stages of development.

Lytoceras, Pl. XIV, fig. 10, a persistent group of Ammonites, lasting with little change throughout the Mesozoic.

Longobardites, Pl. IX, figs. 14-16, family Pinacoceratidae.

Eutomoceras, Pl. IX, figs. 5-7, family Hungaritidae.

Discotropites, Pl. V, figs. 1-13, family Tropitidae.

Paratropites, Pl. V, figs. 14-19, family Tropitidae.

Ceratites, Pl. V, figs. 20-26, family Ceratitidae.

Gymnotropites, Pl. VIII, figs. 11-13, family Tropitidae.

Illustrating convergence in different stocks, in the development of the keel and sculpture. A good example of orthogenetic evolution.

Paraganides, Pl. VI, figs. 22-26, family Ptychitidae, retarded and reversionary to the primitive Glyphioceran stock.

Leconteia, Pl. VI, figs. 11-15, family Tropitidae.

Metasibirites, Pl. VI, figs. 1-10, family Tropitidae.

Homerites, Pl. VI, figs. 16-21, family Tropitidae.

Reversionary, by arrest of development; showing vestigial characters, and probable orthogenesis in closely allied stocks.

Arpadites, Pl. VIII, figs. 1-10.

Beyrichites, Pl. VIII, figs. 14-23.

Showing reversion to the ancestral *Meekoeras*, in some characters.

- Schloenbachia*, Pl. XIII, figs. 16-21.
- Lytoceras*, Pl. XIII, figs. 10-15.
- Placenticeras*, Pl. XIII, figs. 22-28.
- Baculites*, Pl. XIII, figs. 1-9, a reversionary form from *Lytoceras*.
- Trachyceras*, Pl. XV, figs. 13-16, one of the most highly specialized of the Ceratitidae; showing the beginning of arrest of development in the prolongation of the entogeny, and persistence of the ancestral *Tirolites* stage throughout adolescence.
- Clionites*, Pl. XV, figs. 1-8, a retarded descendant of *Trachyceras*, reversionary by arrest of development toward *Tirolites*.
- Clionites* (*Californites*), Pl. XV, figs. 9-12, a form still more strongly reversionary than the preceding species, with almost complete palinogenesis of *Tirolites* characters, but with inheritance of the trachyceran furrow and sculpture from its immediate ancestor; these are characters that *Tirolites* never had.
- Otoceras*, Pl. X, figs. 6 and 7, a transitional Permian genus.
- Paratissotia*, Pl. X, figs. 8-10, a Cretaceous genus, arrested in development, and showing atavistic reversion to characters very like those of *Otoceras*.
- Waagenoceras*, Pl. X, fig. 12, a Permian genus, primitive and progressive.
- Sphenodiscus*, Pl. X, fig. 11, a Cretaceous genus, arrested in development, and showing a close approach to the septation of *Waagenoceras*. These two genera do not belong to the same line of descent, hence the convergence is not due to atavism.
- Heterotissotia*, Pl. X, figs. 2-4, a Cretaceous genus, showing arrest of development, and reversion to some form like *Ceratites*, but probably not to any member of the Ceratitidae.
- Ceratites*, Pl. X, fig. 15, a Triassic genus, like the reversionary forms of later Cretaceous groups, the "Pseudoceratites."
- Neolobites*, Pl. X, fig. 1, a Cretaceous genus, showing arrest of development and reversion to the Goniatite stage, though probably not to any known Paleozoic genus.

(Showing similarity of
young stages, due to
adaptation in stocks
that are wholly distinct.
The young stages are
probably cœnogenetic.

EXPLANATION OF PLATES.

- Schloenbachia*, Pl. XIII, figs. 16-21.
- Lytoceras*, Pl. XIII, figs. 10-15.
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EXPLANATION OF PLATES.

PLATE I.

Goniatites crenistria Phillips, Lower Carboniferous, Arkansas.

Fig. 1, a-j, development, shown in septa, from protoconch to maturity.

Fig. 2, early larval stage, diam. 0.47 mm.

Figs. 3 and 4, larval stage, diam. 0.92 mm.

Figs. 5 and 6, adolescent stage, diam. 1.29 mm.

Figs. 7-9, adult shell and septa.

A highly specialized Goniatite, and a representative of the group radicle of the Tropitidae and Arcestidae among the Mesozoic Ammonites.

Gastrioceras Listeri Martin, Coal Measures, Arkansas.

Figs. 10-11, adult shell.

A still more highly specialized Goniatite, showing further progress toward the Tropitidae.

Gastrioceras Branneri Smith, Coal Measures, Arkansas.

Figs. 12-14, adult shell and septa.

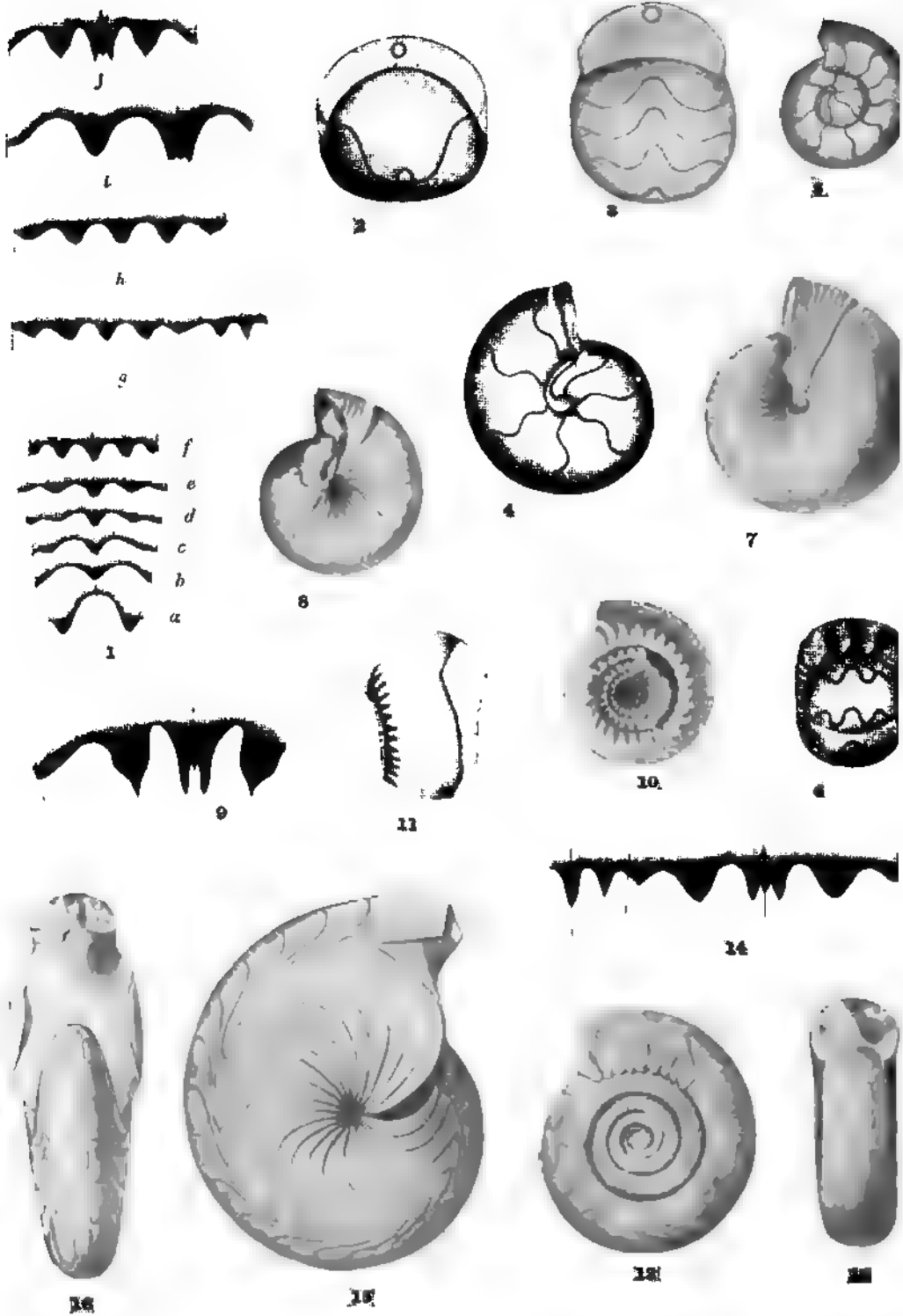
Aganides rotatorius de Koninck, Lower Carboniferous, Indiana.

Figs. 15 and 16, adult shell.

The genera illustrated on this plate show the stage of evolution of the common Carboniferous groups, and the early ancestral types of the Arcestidae and the Tropitidae.

All figures on this plate are from J. P. Smith, Carboniferous Ammonoids of America, Mon. XLII, U. S. Geological Survey, 1903.

PLATE I.



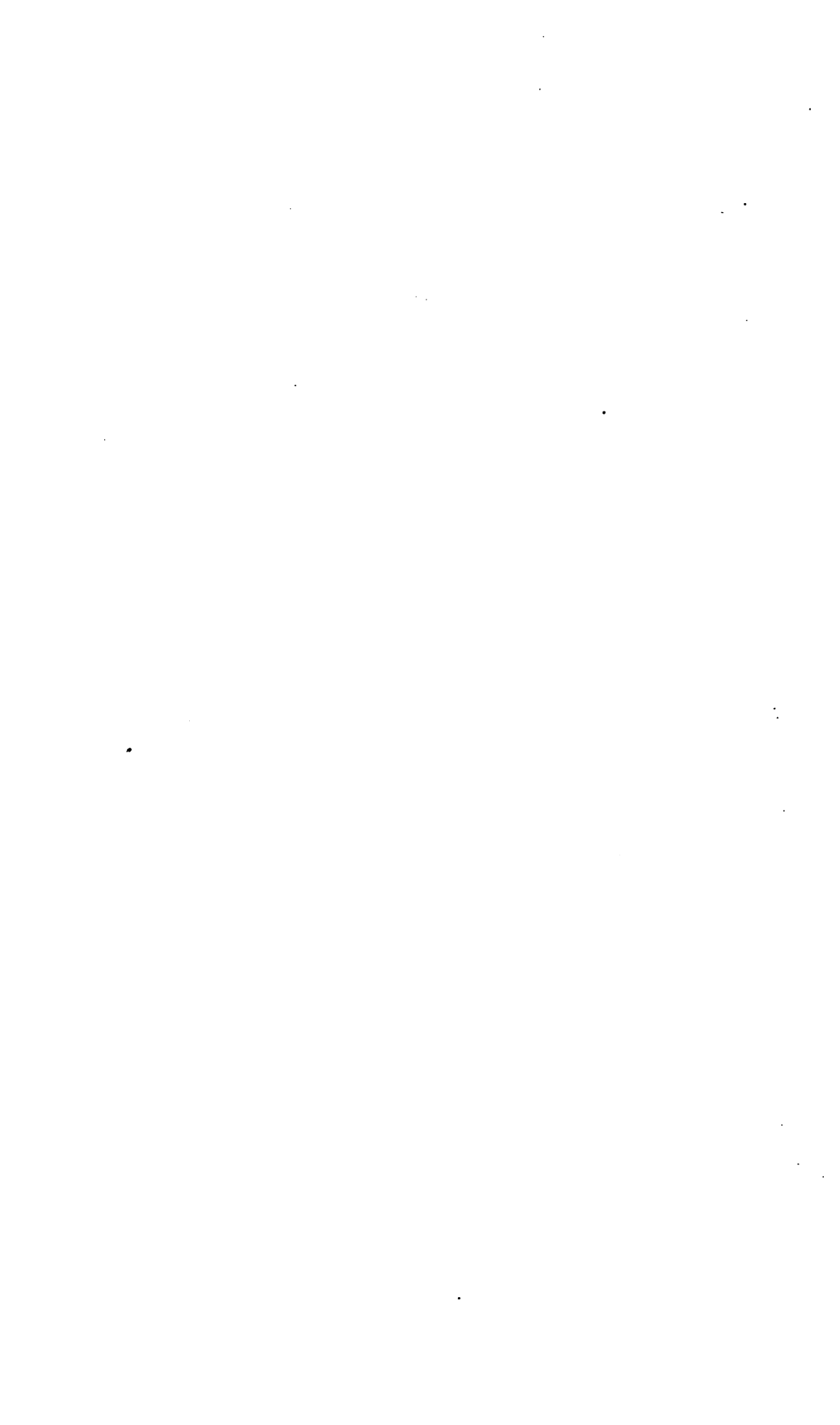


PLATE II.

Paralegoceras iowense Meek and Worthen, Coal Measures, Iowa.

Fig. 1, adult specimen.

The two species of *Paralegoceras* figured on this plate show a transition from *Gastrioceras* to *Schistoceras*.

Paralegoceras Newsomi Smith, Coal Measures, Arkansas.

Figs. 2-4, adult shell and septa.

Fig. 5, adolescent stage.

Schistoceras Hildrethi Morton, Coal Measures, Ohio.

Figs. 6 and 7.

The three species of *Schistoceras* figured on this plate show a distinct step toward the Arcestidae, although it is not probable that any one of them was the family radicle.

Schistoceras fultonense Miller and Gurley, Coal Measures, Illinois.

Figs. 8-10.

Schistoceras Hyatti Smith, Coal Measures, Texas.

Figs. 11 and 12, adult shell and septa.

Fig. 13, adolescent stage.

The genera illustrated on this plate show an advance of the Glyphioceratidae towards the Arcestidae and the Tropitidae.

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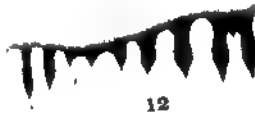
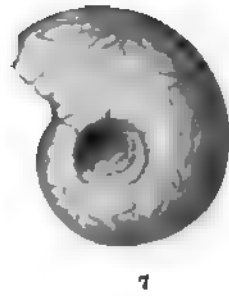
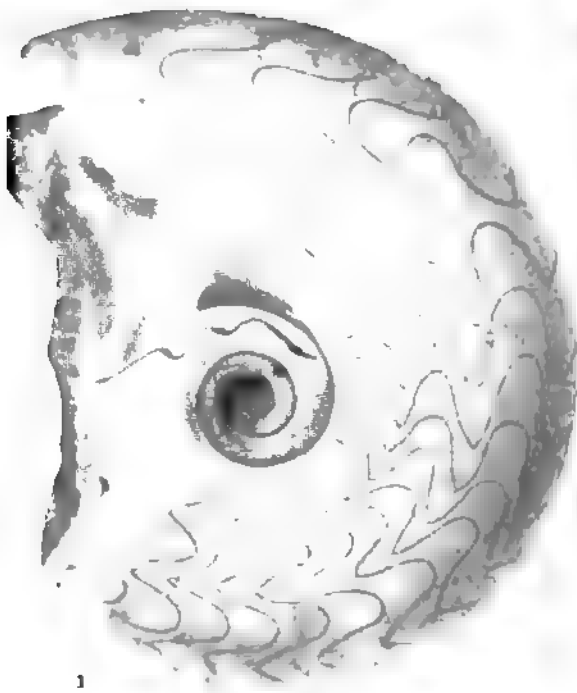


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Schistoceras Hyatti Smith, Coal Measures, Texas.

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Fig. 13, adolescent stage.

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PLATE II.





PLATE VIII.

Arpadites Gabbi Hyatt and Smith, Upper Triassic, California.

Figs. 1-10, showing development from late larval stage to maturity, and reversion at maturity to some of the ancestral *Meekoceras* characters.

Gymnotropites californicus Hyatt and Smith, Upper Triassic, California.

Figs. 11-13, showing convergence with *Discotropites* and *Eutomoceras*.

Beyrichites rotelliformis Meek, Middle Triassic, Nevada.

Figs. 14-23, showing development from late larval stage, and partial reversion at maturity to the ancestral *Meekoceras* characters. This species also shows convergence with *Ptychites*, an entirely different stock.

All figures from Hyatt and Smith, Triassic Cephalopod Genera of America.

PLATE VIII.

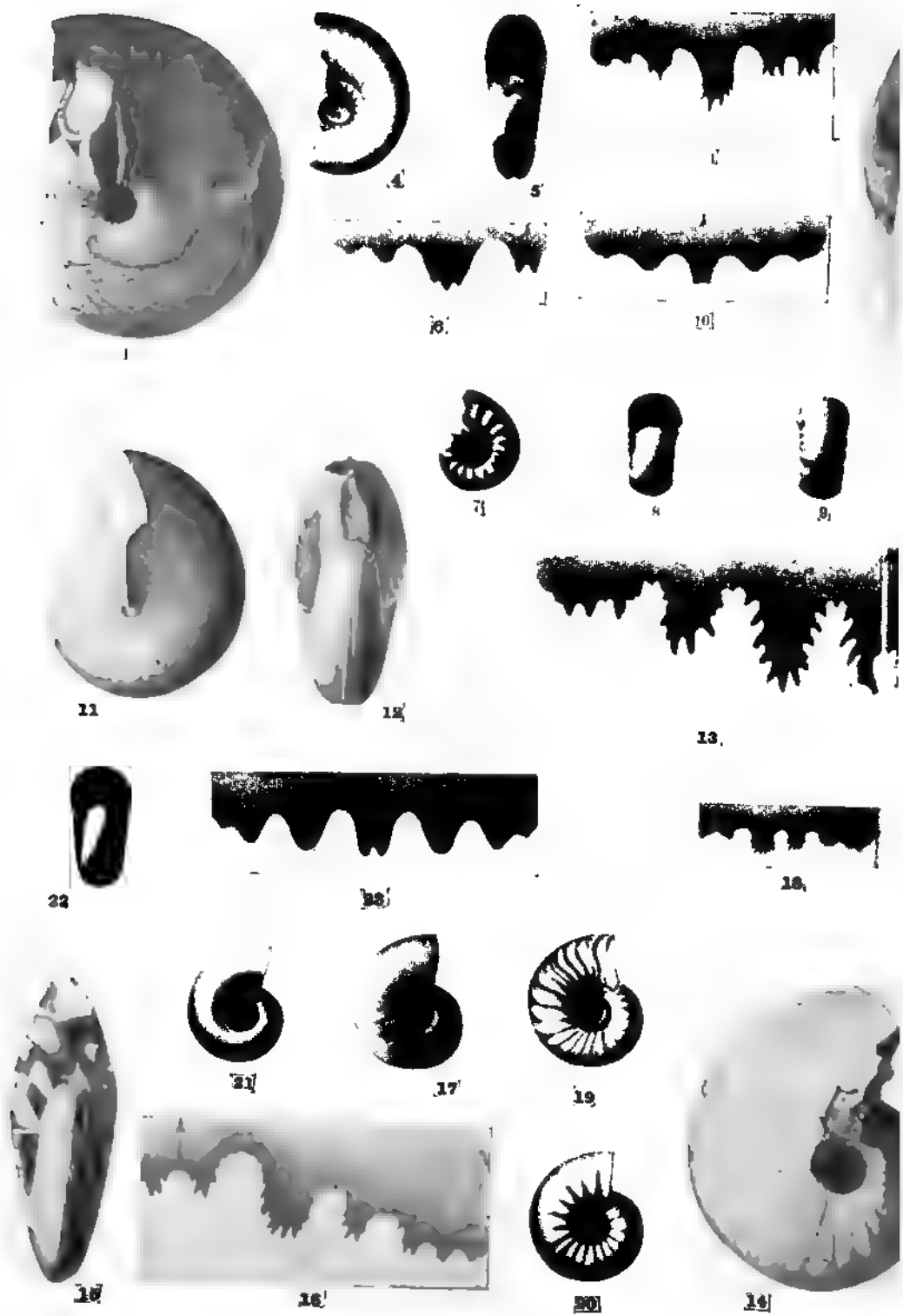


PLATE IX.

Aspenites acutus Hyatt and Smith, Lower Triassic, Idaho.

Figs. 1-4, adult stage, showing resemblance to the Devonian *Timanites*.

Eutomoceras Laubei Meek, Middle Triassic, Nevada.

Figs. 5-7, showing convergence of Hungaritidae with Tropitidae.

Inyoites Oweni Hyatt and Smith, Lower Triassic, California.

Figs. 8-13, showing convergence of Hungaritidae and Tropitidae.

Longobardites nevadanus Hyatt and Smith, Middle Triassic, Nevada.

Figs. 14-16, showing convergence of Pinacoceratoidea with Hungaritidae, through partial reversion towards the same ancestral *Timanites*.

All figures from Hyatt and Smith, Triassic Cephalopod Genera of America.

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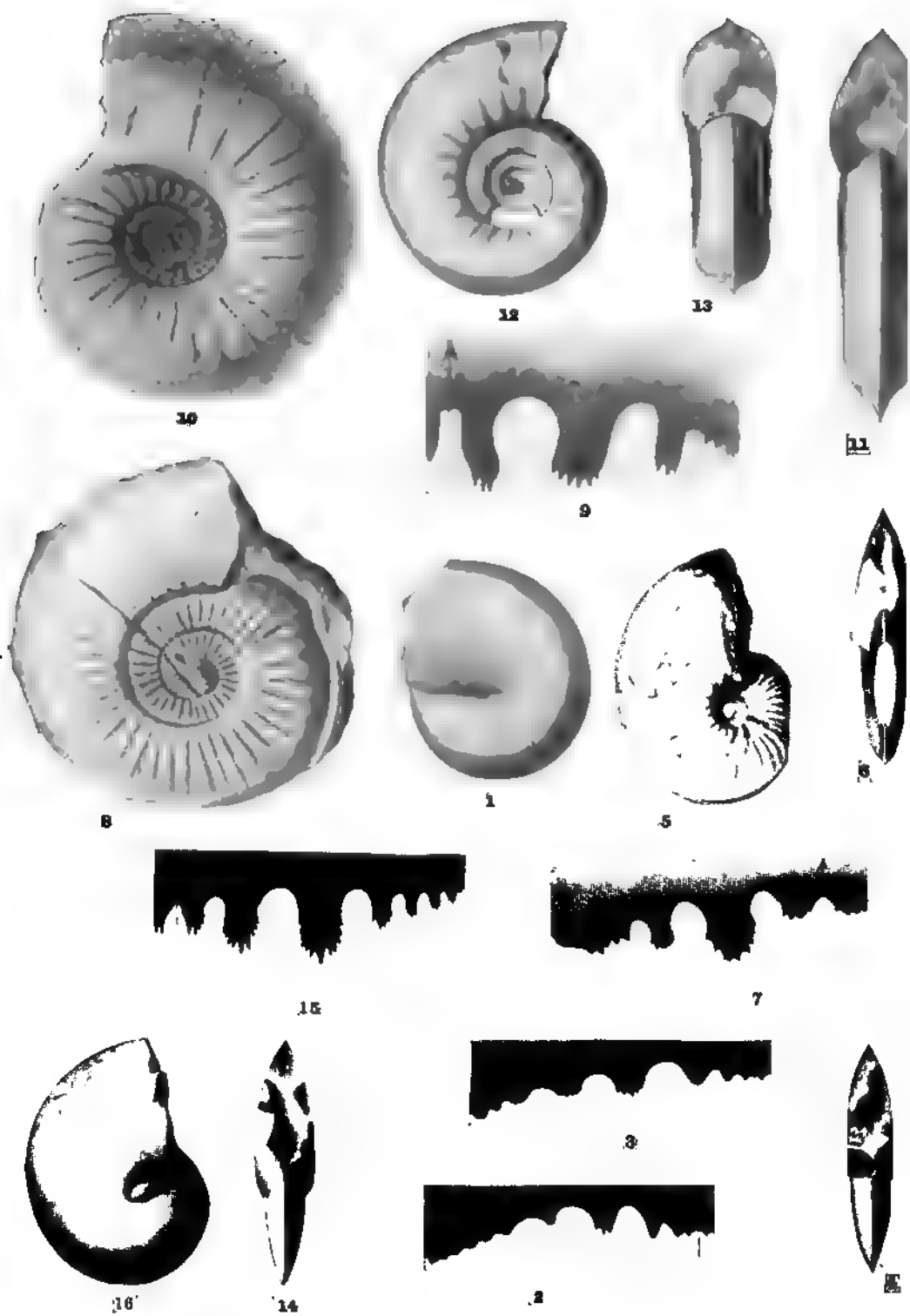


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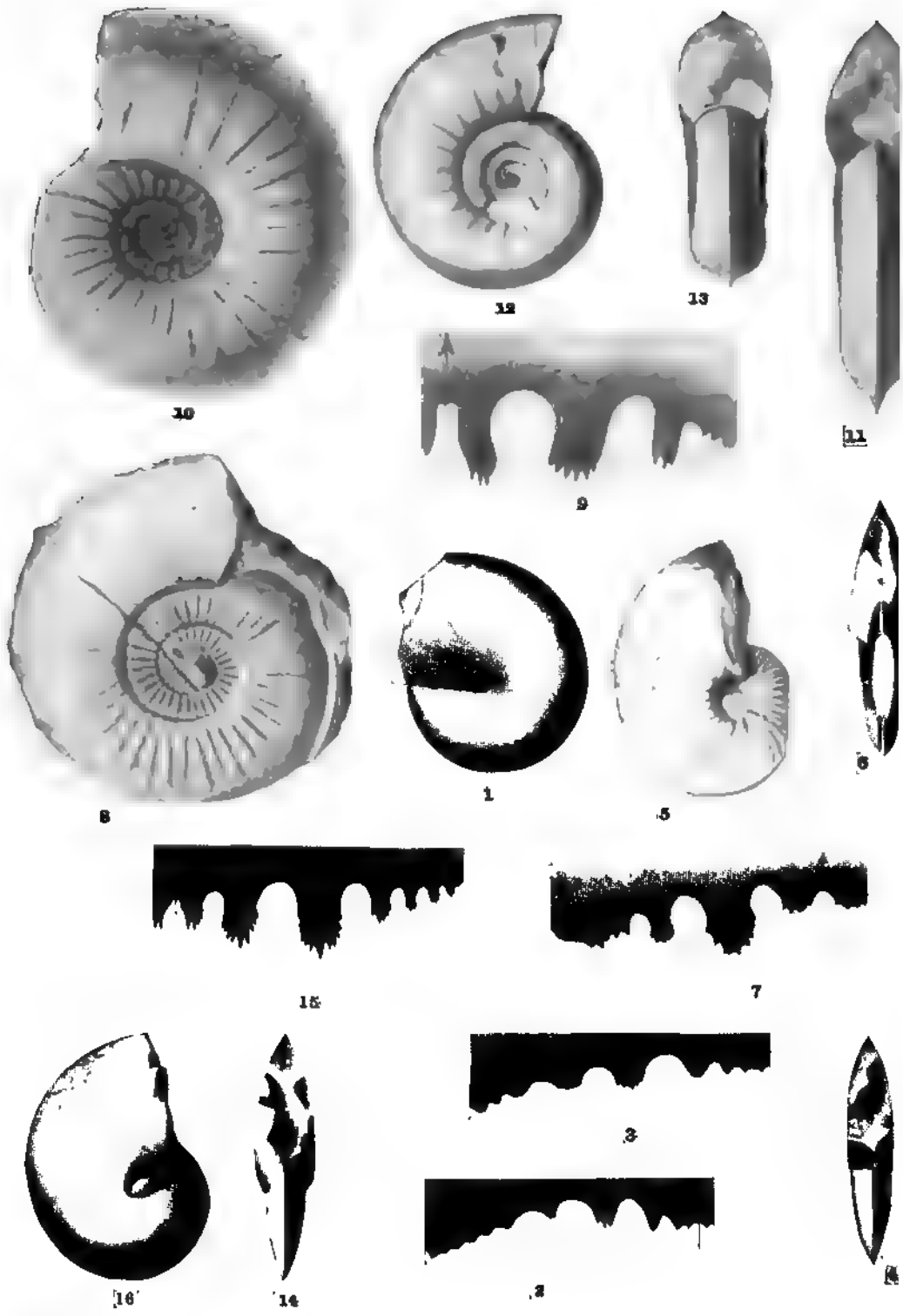


PLATE X.

Neolobites Choffati Hyatt.

Fig. 1, showing arrest of development and reversion of a Cretaceous genus to the Paleozoic Goniatite stage.

Heterotissotia neoceratites Peron, Upper Cretaceous, Peru.

Figs. 2-4, convergence with the Triassic *Ceratites*, by reversion to some ceratitic ancestor, though probably not *Ceratites*.

Ceratites semipartitus v. Buch, Middle Triassic, Germany.

Fig. 5, septa for comparison with the "Pseudoceratites" of the Cretaceous.

Otoceras Woodwardi Diener, Lower Triassic, India.

Fig. 6 and 7, a transitional Permian and Lower Triassic genus, to show heterochronous convergence with some of the "Pseudoceratites" of the Cretaceous.

Paratissotia serrata Hyatt, Upper Cretaceous, Peru.

Figs. 8-10, a Cretaceous genus, arrested in development, and showing atavistic reversion to characters very like those of *Otoceras* of the Permian and Lower Triassic.

Sphenodiscus Hilli Hyatt, Upper Cretaceous, Texas.

Fig. 11, septa, showing resemblance to Arcestidae of the Triassic, though probably not indicating relationship.

Waagenoceras Hilli Smith, Permian, Texas.

Fig. 12, septa, showing resemblance to those of *Sphenodiscus* of the Cretaceous—a case of heterochronous convergence.

Figs. 1, 8, 9, 10, 11, from Hyatt, Pseudoceratites of the Cretaceous.

Figs. 6 and 7, from Diener, Cephalopoda of the Lower Trias. Mem. Geol. Survey, India, 1897.

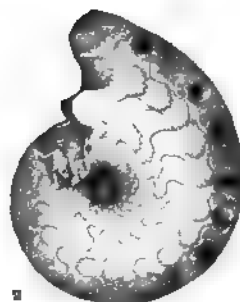
Figs. 2-5, from Steinmann, Probleme der Ammoniten-Phylogenie. Sitz. Niederrhein. Gesell. Bonn, 1909.

Fig. 12, from J. P. Smith, Carboniferous Ammonoids of America.

PLATE X.



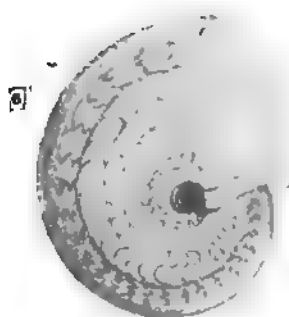
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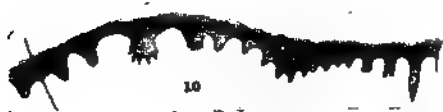
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PLATE XI.

Ussuria Waageni Hyatt and Smith, Lower Triassic, Idaho.

Figs. 1-14, showing development from larval stage to maturity. A primitive progressive form, showing simple recapitulation of its ancestral history.

Paranannites aspenensis Hyatt and Smith, Lower Triassic, Idaho.

Figs. 15-20. Primitive Ammonite, transitional from the Paleozoic Glyphioceratidae to the Mesozoic Ptychitidae, an example of a radicle of a group.

All figures from Hyatt and Smith, Triassic Cephalopod Genera of America.

PLATE XI.

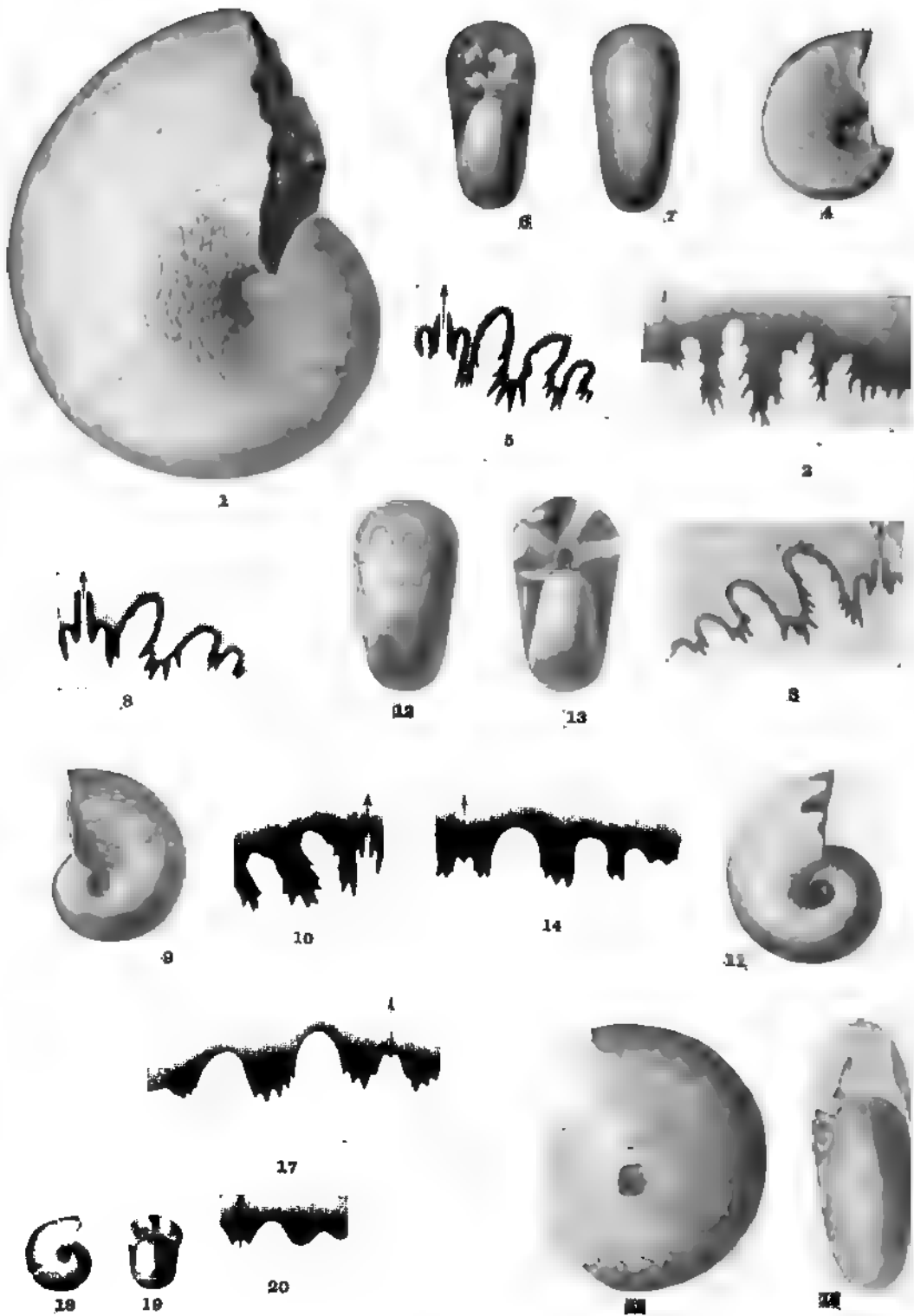


PLATE XII.

Cordillerites angulatus Hyatt and Smith, Lower Triassic, Idaho.

Figs. 1-8, development from larval stage to maturity. A primitive Ammonite, showing simple recapitulation; a very perfect repetition of phylogeny in ontogeny.

Pronorites cyclolobus Phillips, Lower Carboniferous, England.

Fig. 9, showing development of the septa. The three species of *Pronorites* illustrated are examples of the ancestral stock of *Cordillerites* and *Medlicottia*.

Pronorites mixolobus, Carboniferous, England.

Fig. 10, septa, for comparison with *P. cyclolobus*.

Pronorites cyclolobus, var. *arkansasensis* Smith, Lower Carboniferous, Arkansas.

Figs. 11 and 12, shell and septa.

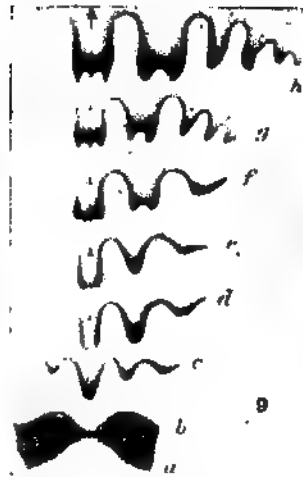
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Figs. 9-12, from J. P. Smith, Carboniferous Ammonoids of America.

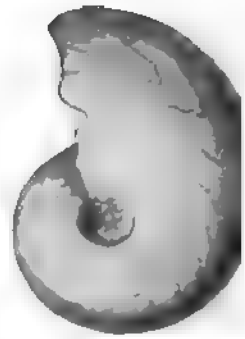
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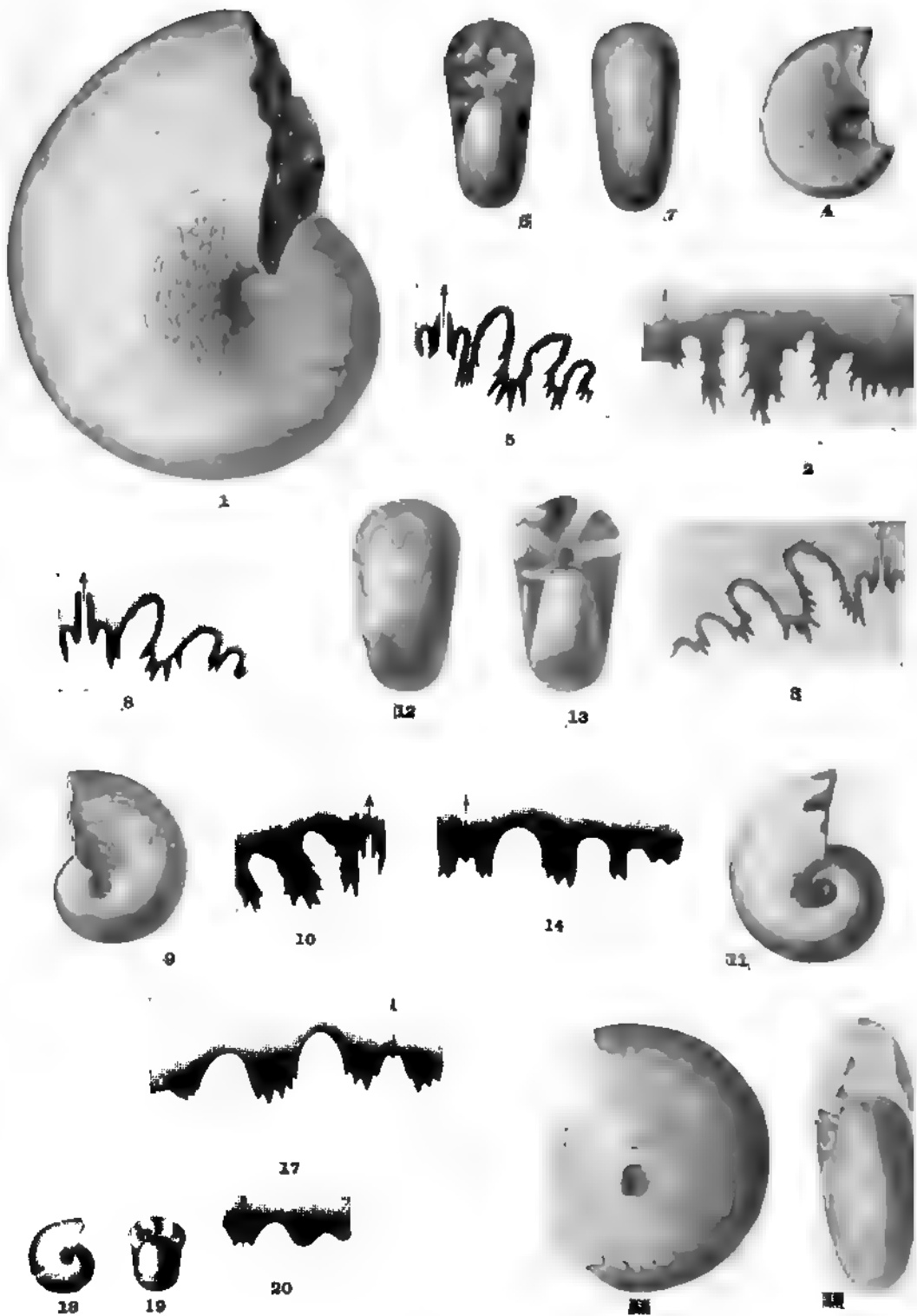


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Pronorites mixolobus, Carboniferous, England.

Fig. 10, septa, for comparison with *P. cyclolobus*.

Pronorites cyclolobus, var. *arkansasensis* Smith, Lower Carboniferous, Arkansas.

Figs. 11 and 12, shell and septa.

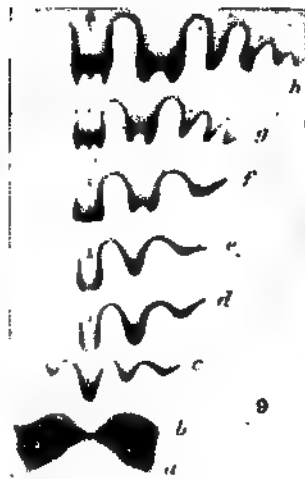
Figs. 1-8, from Hyatt and Smith, Triassic Cephalopod Genera of America.

Figs. 9-12, from J. P. Smith, Carboniferous Ammonoids of America.

PLATE XII.



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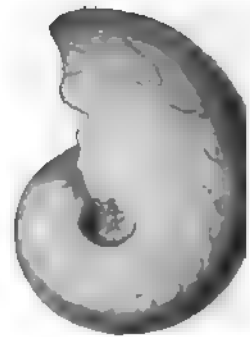
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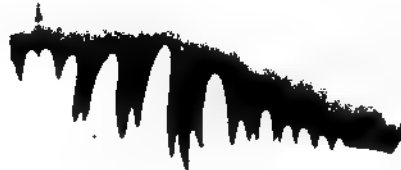
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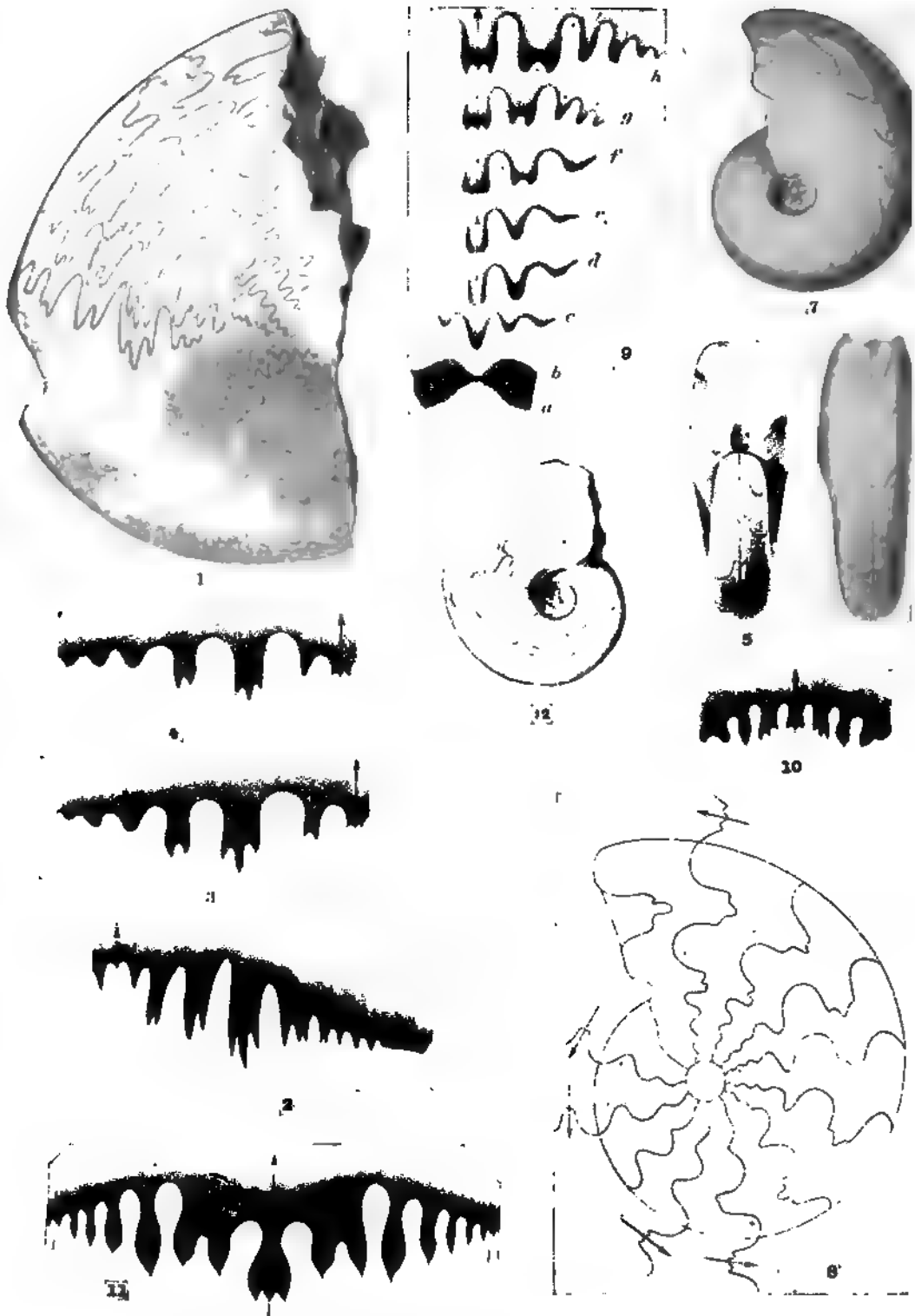


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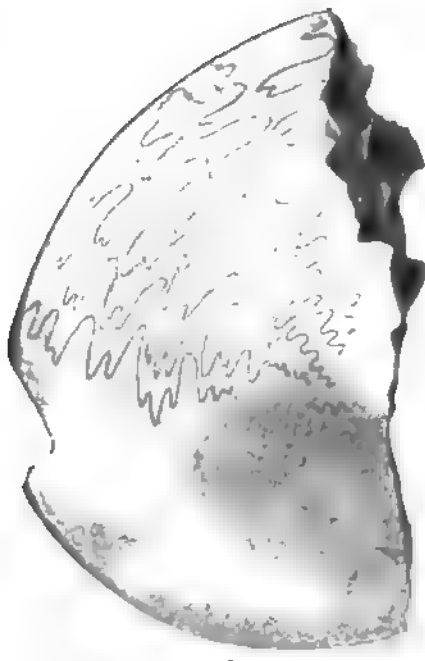
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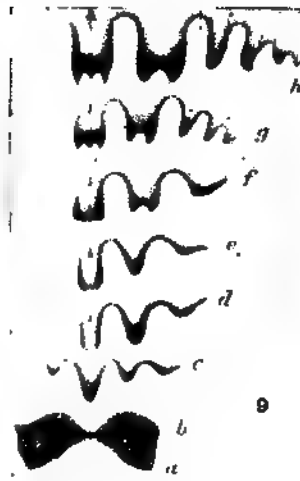
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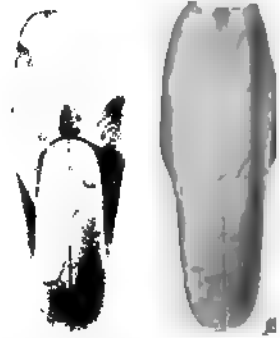
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PLATE XIII.

Baculites chicoensis Trask, Upper Cretaceous, California.

Figs. 1-9, larval stages, showing coiled young, and derivation from the normal genus, *Lytoceras*.

Lytoceras alamedense Smith, Upper Cretaceous, California.

Figs. 10-15. Larval and adolescent stages, showing resemblance to young of *Baculites*.

Schloenbachia oregonensis Anderson, Upper Cretaceous, Oregon.

Figs. 16-21, larval and adolescent stages.

Placenticerias pacificum Smith, Upper Cretaceous, California.

Figs. 22-28. Larval and adolescent stages, showing recapitulation of phylogeny in ontogeny.

Lytoceras, *Schloenbachia*, and *Placenticerias* belong to wholly different stocks, with different ancestry; and yet their young stages are very much alike, due to adaptation and not atavism.

All figures are from J. P. Smith, figs. 1-9, Larval Coil of *Baculites*, American Naturalist, 1901; figs. 10-15, The Development of *Lytoceras* and *Phylloceras*, Proc. Calif. Acad. Sci., 1898; figs. 16-21, Larval Stages of *Schloenbachia*, Journal of Morphology, 1899; figs. 22-28, The Development and Phylogeny of *Placenticerias*, Proc. Calif. Acad. Sci., 1900.

PLATE XIII.

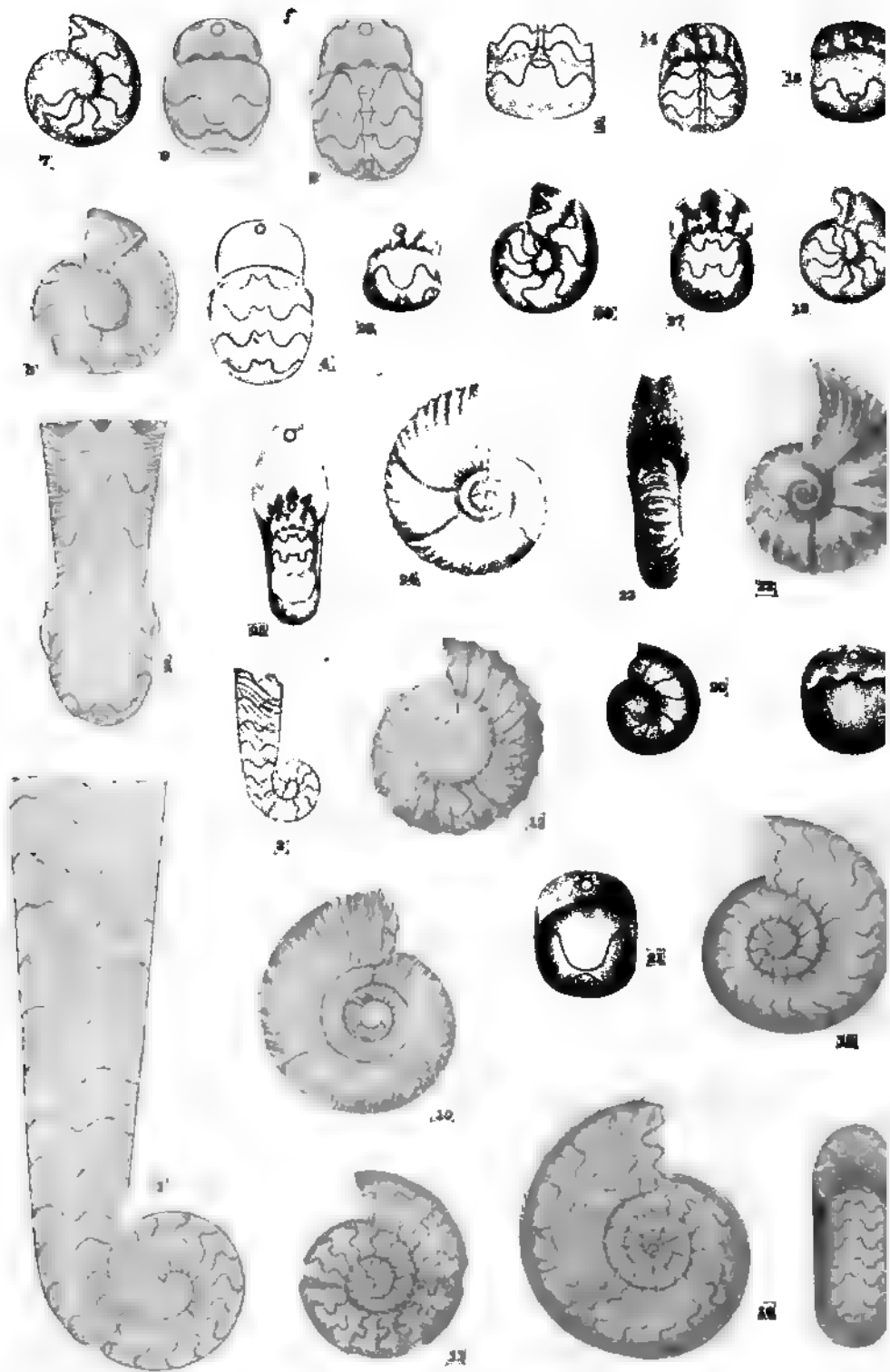


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Figs. 22-28. Larval and adolescent stages, showing recapitulation of phylogeny in ontogeny.

Lytoceras, *Schloenbachia*, and *Placenticerias* belong to wholly different stocks, with different ancestry; and yet their young stages are very much alike, due to adaptation and not atavism.

All figures are from J. P. Smith, figs. 1-9, Larval Coil of *Baculites*, *American Naturalist*, 1901; figs. 10-15, The Development of *Lytoceras* and *Phylloceras*, *Proc. Calif. Acad. Sci.*, 1898; figs. 16-21, Larval Stages of *Schloenbachia*, *Journal of Morphology*, 1899; figs. 22-28, The Development and Phylogeny of *Placenticerias*, *Proc. Calif. Acad. Sci.*, 1900.

PLATE XIV.

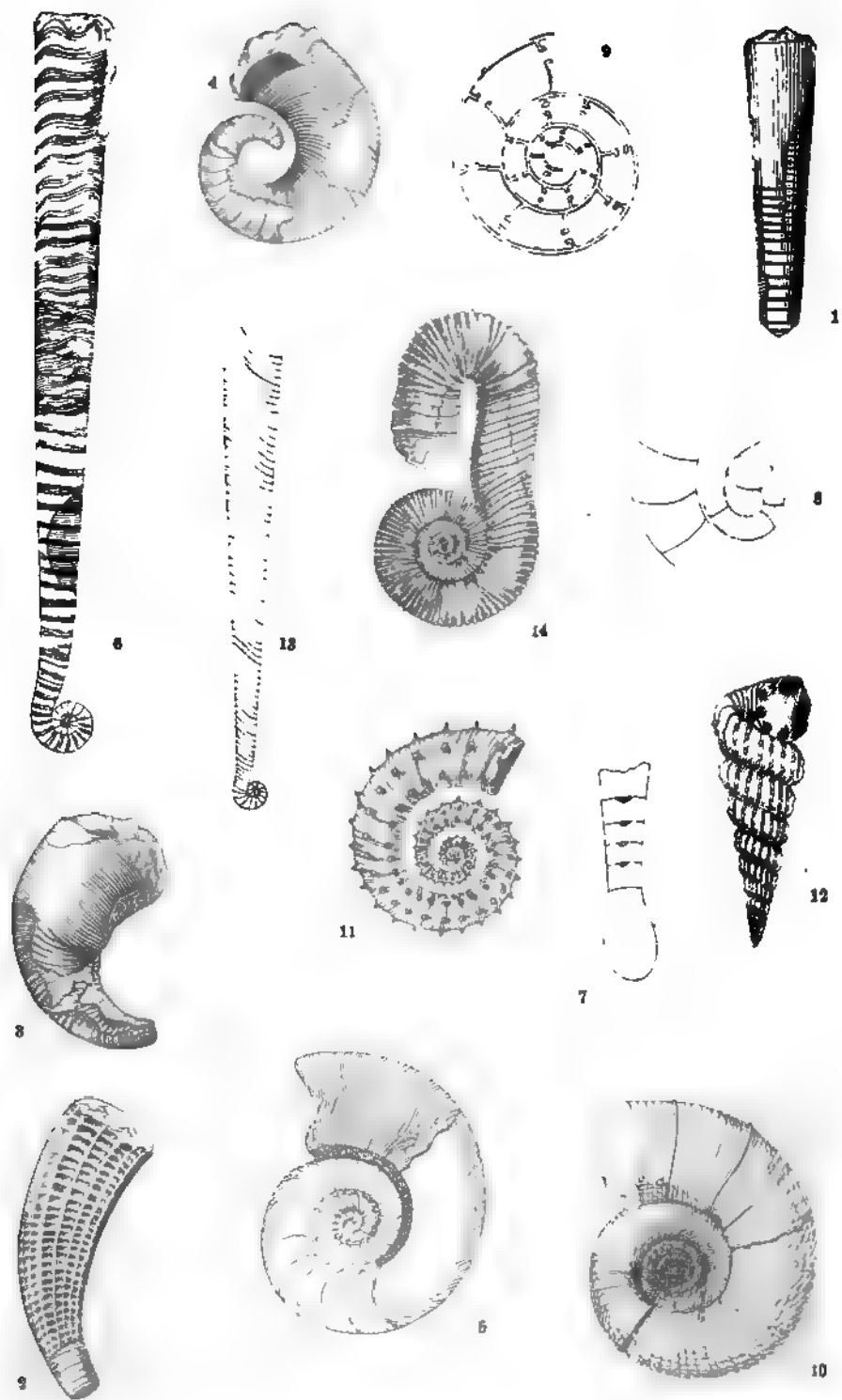


PLATE XIV.

- Fig. 1. *Orthoceras timidum*.
- Fig. 2. *Cyrtoceras corbulatum*.
- Fig. 3. *Cyrtoceras Murchisoni*.
- Fig. 4. *Gyroceras alatum*.
- Fig. 5. *Nautilus planotergatus*.
- Fig. 6. *Lituities lituus*.
- Fig. 7. *Bactrites (protoconch)*.
- Fig. 8. *Mimoceras compressum*.
- Fig. 9. *Tropites phoebus*.
- Fig. 10. *Lytoceras Liebigi*.
- Fig. 11. *Crioceras Emerici*.
- Fig. 12. *Turrilites catenatus*.
- Fig. 13. *Baculites compressus*.
- Fig. 14. *Macroscaphites Ivani*.

All figures are from J. P. Smith, Evolution of Fossil Cephalopoda, Chapter IX, in D. S. Jordan's Footnotes to Evolution, 1898. They illustrate various stages in the evolution of Cephalopoda mentioned in the text.

PLATE XIV.

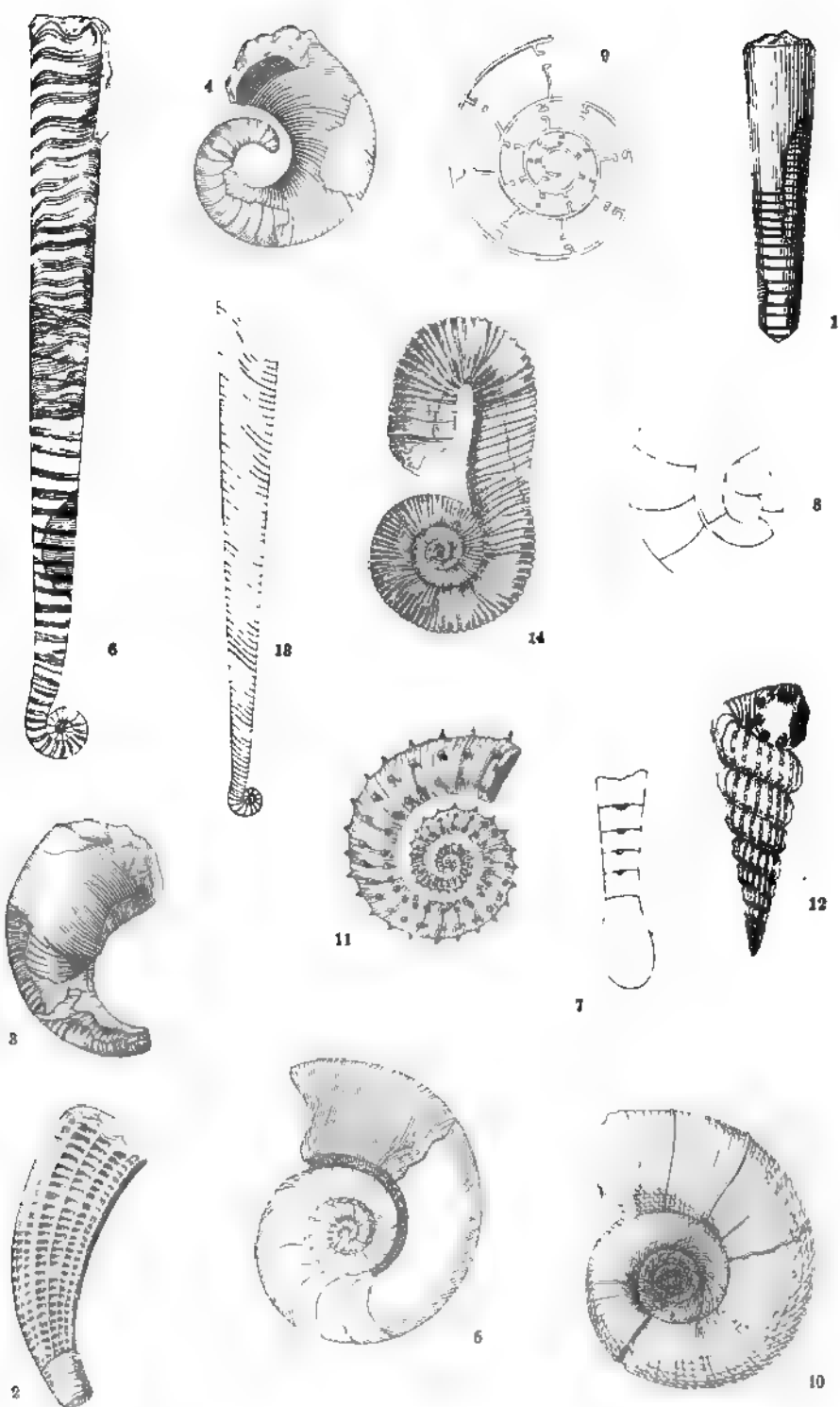


PLATE XV.

Clionites (Traskites) robustus Hyatt and Smith, Upper Triassic, California.

Figs. 1-8. A form arrested in development, and partly reversionary to *Trachyceras*.

Clionites (Californites) Merriami Hyatt and Smith, Upper Triassic, California.

Figs. 9-12. A form more retarded than *C. robustus*, and showing more of the ancestral characters. Reversionary, by arrest of development, to *Tirolites*, in everything but the retention of the trachyceran furrow.

Trachyceras duplex Mojsisovics, Upper Triassic, Alps.

Figs. 13-16. A progressive form, but showing the beginning of arrest of development in the prolongation of the ontogeny, and persistence of the *Tirolites* stage in adolescence.

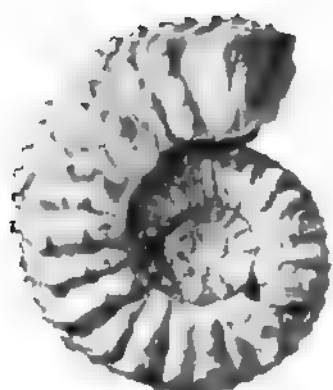
Clionites (Neanites) californicus Hyatt and Smith, Upper Triassic, California.

Figs. 17-20. Reversionary by arrest of development to the ancestral type, *Tyrolites*, but still showing the trachyceran furrow inherited from its intermediate ancestor *Trachyceras*.

Figs. 1-12, and 17-20, from Hyatt and Smith, Triassic Cephalopod Genera of America.

Figs. 13-16, from E. von Mojsisovics, Das Gebirge um Hallstatt, II, 1893.

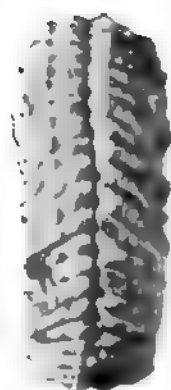
PLATE XV.



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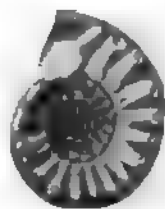
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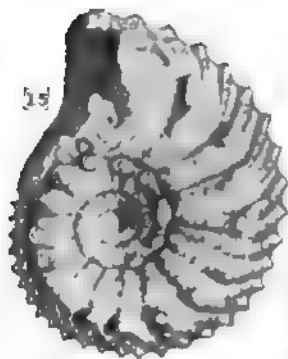
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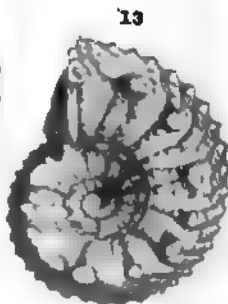
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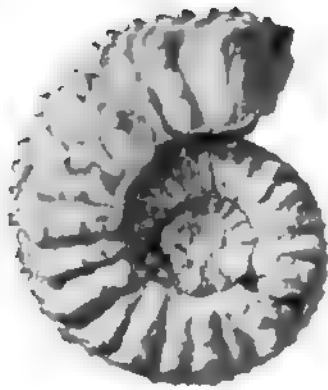
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PLATE XV.



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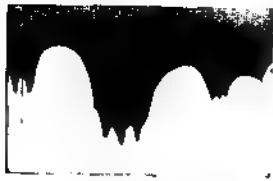
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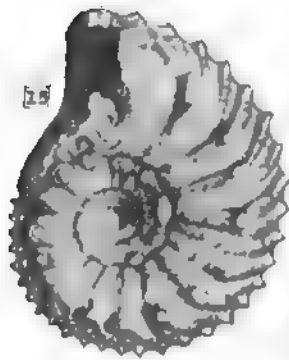
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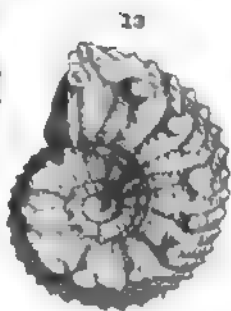
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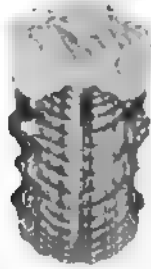
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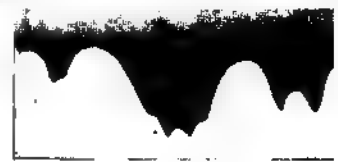
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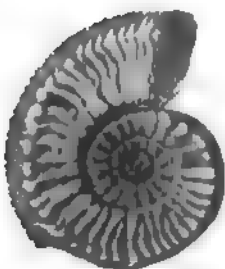
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15

A Morphological Study
of some members of the
Genus *Pallavicinia*

BY

DOUGLAS HOUGHTON CAMPBELL

PROFESSOR OF BOTANY

AND

FLORENCE WILLIAMS

STANFORD UNIVERSITY, CALIFORNIA

PUBLISHED BY THE UNIVERSITY

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(Continued on third page of cover)

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WITH TWENTY-THREE FIGURES

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Introduction.

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INTRODUCTION

The Liverworts, probably the most primitive of existing land-plants, offer many important morphological problems to the botanist. Among the Liverworts, no group is more interesting than that known usually as the Anacrogynous Jungermanniales, or, as less commonly denominated, the Metzgeriaceae.

While a good deal of work has been done upon the morphology of these plants, notably the important investigations of Leitgeb [1] and Goebel [1, 2] as well as the earlier studies of Hofmeister [1] and others, the minute study of their structure and development has been confined to a comparatively small number of species; and further investigations on

some of the less known forms must be done before it will be possible to determine the relationships of the different genera of the Anacrogynae.

At present the classification of the Anacrogynae is in a most unsatisfactory condition, and it is certain that radical changes must be made in the scope of certain genera, and in the grouping of the families as they are at present constituted.

Most of the Anacrogynae are plants of relatively simple structure, being thallose forms for the most part, although in certain genera, *e. g.*, *Blasia*, *Fossombronina*, *Treubia*, leaf-like marginal lobes are present; and the transition from the typically thallose Anacrogynae to the much more numerous leafy liverworts (*Jungermanniales acrogynae*) is by no means an abrupt one.

During a stay in Western Java, in 1906, a number of rare liverworts were collected, including several species of *Pallavicinia*. Among these were three which have been seldom collected, and which so far as we know have never been critically examined as to their anatomy and development. As it was thought that a careful study of these species might be of value for a better understanding of the morphology of the genus, the specimens were given to Miss Williams for investigation. The making of the preparations upon which the present paper is based, as well as most of the drawings, are the work of Miss Williams.

The genus *Pallavicinia* as understood by Schiffner [1], comprises the two old genera, *Mörkia* and *Blyttia*, of Gottsche. In his recent excellent résumé of the Liverworts, Cavers [2] has expressed the opinion that these older genera should be revived, and the name *Pallavicinia* be discarded. Should this view be accepted, all of the species here considered would be transferred to the genus *Blyttia*, unless the sub-genus *Mittenia* is separated as a distinct genus.

Most of the species of *Pallavicinia* are found in the moist tropics, being especially abundant in the more elevated regions. Several species, however, *e. g.*, *P. Lyellii*, occur in the more humid parts of the temperate zones.

Stephani, in his review of the Hepaticae [1], recognizes 29 species of *Pallavicinia*, which are placed in two sections: *Procumbentes*,¹ with 20 species, and *Dendroideae*,² with 9. In the *Procumbentes* (*Eupallavicinia*) the plant is a prostrate thallus (Fig. 1, *B*), usually attached for its whole length to the substratum by numerous rhizoids. The members of the section *Mittenia* have the thallus differentiated into two parts, a prostrate rhizome-like

¹The section *procumbentes* = Schiffner's sub-genus *Eupallavicinia*.

²The *Dendroideae* = *Mittenia* Gottsch.

region, nearly or quite destitute of a lamina, and upright branches which grow from the rhizome. In these upright shoots, the lamina is broadly expanded and repeatedly forked. These dichotomously branched shoots resemble very closely the leaves of certain small ferns, especially the Hymenophyllaceae (Fig. 1, *A*).

Of the three species to be discussed in the present paper, two, *P. radiculosa* and *P. Levieri*, belong to the section Eupallavicinia, the third, *P. Zollingeri*, to Mittenia.

The general structure of the thallus is much the same in all species. Except for the rhizome-like portion occurring in some species, the thallus is differentiated into a very distinct midrib, several cells thick, and a delicate lamina, or wing, on each side of the midrib, these marginal wings being always in Eupallavicinia but a single cell in thickness; but in Mittenia they merge more or less gradually into the midrib. The midrib is traversed throughout its extent by a strand of conducting tissue composed of cells which are narrowed and greatly elongated, pointed at the ends, and with thick pitted walls.

Branching is of two types. In the first there is an apparent dichotomy, the equal branches having their midribs and conducting tissues continuous with those of the main shoot. The second type of branching has the appearance, superficially, of exogenous adventitious branches occurring on the ventral surface of the midrib. In these ventral shoots, the conducting tissue is not connected with the midrib of the main shoot (Fig. 2, *A*, *B*).

Rhizoids occur more or less abundantly on the lower surface of the thallus where it is in contact with the substratum.

All of the species are dioecious, the reproductive organs being borne upon the dorsal surface of the thallus. The antheridia, which are protected by scales, occur either upon the midrib or close to it. The archegonia are in definite groups which are surrounded by a double envelope, the outer one forming the "involucre," the inner envelope a more or less tubular sheath, the "perianth."

METHODS

Most of the material was killed with a 1% aqueous solution of chromic acid. Other material was fixed with alcohol containing 10% acetic acid. Larger specimens were also preserved in commercial alcohol. The material was imbedded in paraffin, cut uniformly 6 μ in thickness, cleared in xylol, and stained variously for the study of different structures. Bismarck-brown proved the best stain for the vegetative parts of the thallus, except the conducting tissue, which was well differentiated by gentian-violet. The latter stain was also found useful in the study of the spermatozoids. These were not satisfactorily stained with either safranin or methyl violet. Haidenhain's iron-alum-haematoxylin proved much the best stain for the nuclei, and was well differentiated by either Bismarck-brown or Delafield's haematoxylin.

Pallavicinia (Mittenia) Zollingeri (Gottsh.) Schiffner.

Pallavicinia Zollingeri is one of the most striking members of the genus, and has hitherto been collected only from Java and Sumatra. The specimens here described were collected near the summit of Mt. Pangerango, an extinct volcanic cone in Western Java, nearly 10,000 feet in height. In this region the plant is very abundant, especially on the low banks along the trail, where it occurs in dense mats of considerable size. It fruits abundantly, and no trouble was experienced in securing an abundant supply of material in various stages of development. In May, 1913, the plant was found on Mt. Banajao, near Manila; and probably the same species was also found in the Benguet mountains. So far as we know, this is the first record of its occurrence outside Java and Sumatra. It grew at a height of about 2,000 metres, under much the same conditions as on Pangerango in Java.

From the slender, creeping rhizome the delicate fan-shaped erect shoots, which are about 6 cm. in height, arise, vivid green in color, and, as we have already stated, resembling so closely a delicate fern that they might very well be mistaken for it (Figs. 1, 5).

The method of growth is sympodial, the apex of the prostrate main axis turning upward, and developing into the expanded, leaf-like erect shoot. From the ventral side of the shoot, near the base, a branch develops which grows horizontally for a time, as a rhizome, and finally turns upward to form another upright frond.

The growth of the shoot is due to the activity of a single large apical cell (Fig. 3, A, B). This appears broadly triangular in section, with seg-

ments cut off from two of its surfaces. Sections through young shoots whose apices are just turning upward, showed in one case five apical cells, of which it was impossible to say which was the original one. Some of the initial cells had not yet divided, while in others one or more segments had been cut off. The original apex continues its growth upward, while these secondary initial cells are left behind, but later they may give rise to ventral shoots.



Fig. 1.

A. Male plant of *Pallavicinia* (*Mittenia*) *Zollingeri*. $\times 2$.
B. Sterile plant of *P. radiculosa*, natural size; *r*, ventral branch.

One of these secondary apical cells begins active growth and gives rise to the shoot which continues the sympodium. It grows horizontally for a time, but finally turns upward and develops into the next upright green frond. Several segments are cut off from the apical cell before a differentiation of the different tissues of the shoot is apparent. Finally the midrib and lateral wings can be distinguished, and in the former the central strand of elongated cells appears. Thus, at the base of the shoot,

the conducting tissue is absent, and there is no connection between it and that of the older shoot from which the branch has arisen (Fig. 2, *B*).

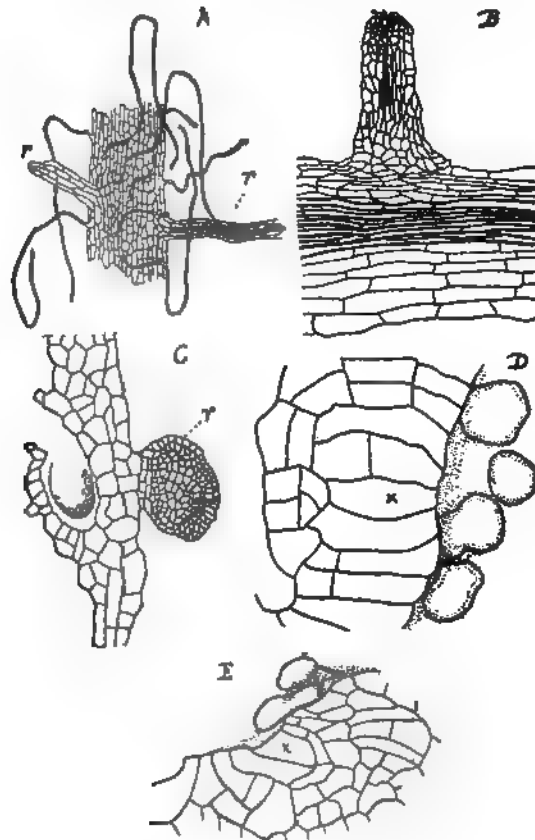


Fig. 2. *Pallavicinia Zollingeri*.

- A. Part of the basal region of a frond, showing rhizoids, and two ventral branches, *r*.
- B. Median longitudinal section of the base of a shoot passing through a young ventral branch. The conducting tissue of the main shoot and the branch are not continuous.
- C. A ventral shoot (*r*) growing from the surface of the frond of an antheridial plant. The remains of an antheridium may be seen upon the dorsal surface.
- D. The apical region of the shoot shown in C. *x*, the apical cell.
- E. Apical region of a ventral shoot.

The other initial cells may never develop beyond cutting off a small number of segments. These groups of cells may be recognized for a long time on the surface of the shoot, near its base. Sometimes, however, one or more of these cell-groups resume activity, and from them

arise the slender, apparently adventitious branches which are often met with upon the ventral side of the shoots. These slender cylindrical root-like branches may be only a few cells in thickness, and are traversed by a conspicuous strand of conducting tissue, which can easily be traced to the base of the shoot, where it ends abruptly, and does not join the corresponding strand of the main axis. The occurrence of ventral branches is confined mainly to the prostrate portion of a shoot, or to the base of the stalk of the frond. They may, however, occasionally arise from the ventral side of the expanded portion of a frond, and in the only case observed (Fig. 2, G) the shoot was much broader than those arising from the stalk of the frond or from the prostrate rhizome. The frond from which this shoot arose bore empty antheridia.

The apical cell of *P. decipiens*, a species from Ceylon, strongly resembling *P. Zollingeri* in general appearance, has been carefully studied

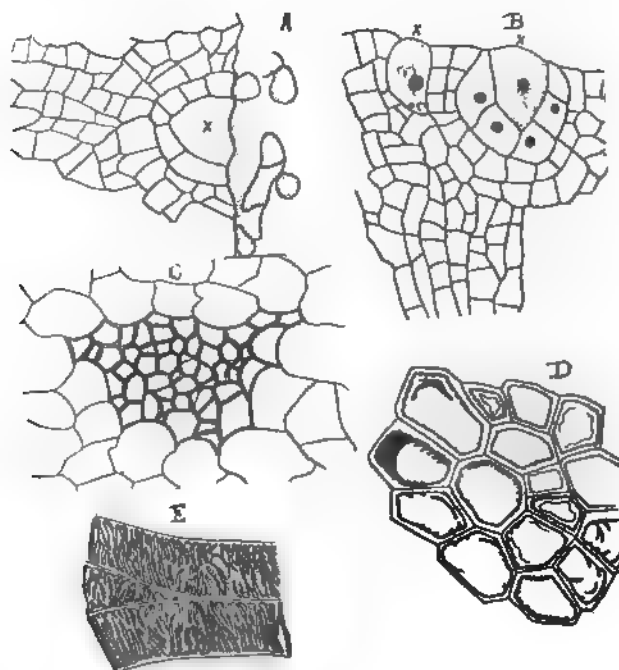


Fig. 3.

- A. Vertical section of the growing point of a frond segment of *Pallavicinia Zollingeri*.
- B. Horizontal section of the same. *x*, primary apical cell; *x'*, secondary apical cell.
- C. Cross-section of the conducting strand from the stalk of the frond of *Pallavicinia Zollingeri*.
- D. Some of the conducting cells, more highly magnified.
- E. Longitudinal section of conducting cells.

by Farmer [1]. In this species the form of the apical cell is quite different from that of *P. Zollingeri*. It has the form of a three-sided prism. Four sets of segments are formed, three lateral and one basal, instead of the two sets of lateral segments found in *P. Zollingeri*.

Long, slender, simple rhizoids which are developed from the superficial cells, are formed in great numbers upon the prostrate rhizomes. Here and there occur isolated scales, one cell in thickness, and very much like those which cover the antheridia.

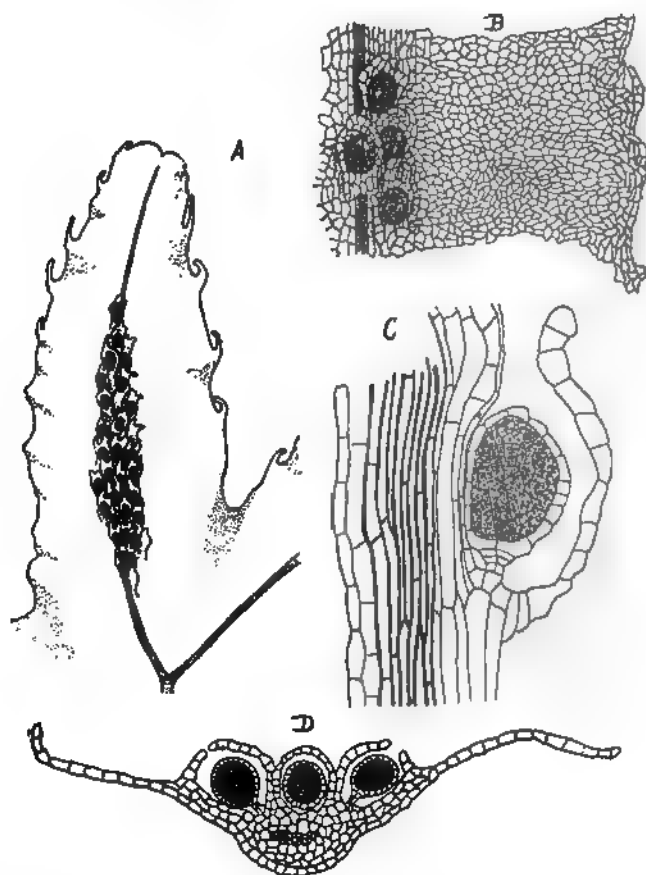


Fig. 4. *Pallavicinia Zollingeri*.

- A. Segment of the frond of an antheridial plant, $\times 25$ (about).
- B. A portion of A, more highly magnified.
- C. Longitudinal section of the shoot, passing through an antheridium, and showing the strand of conducting tissue.
- D. Cross-section of a segment of the frond, showing the position of the antheridia on the dorsal surface of the midrib.

The cells of the ventral part of the midrib have thick walls in which are pits elongated transversely. These pits are in lines extending round the cell, and forming partial spirals, this being perhaps due to the longitudinal growth of the cell (Fig. 3, *D, E*). These cells, which are presumably conducting cells, have very little protoplasmic contents, thus agreeing with Tansley's description of the corresponding tissue in other members of the genus [1]. The cells of the cortical tissue of the rhizome contain many starch granules, in this respect recalling Cavers' figures of *Mörkia flowtowiana* [2].

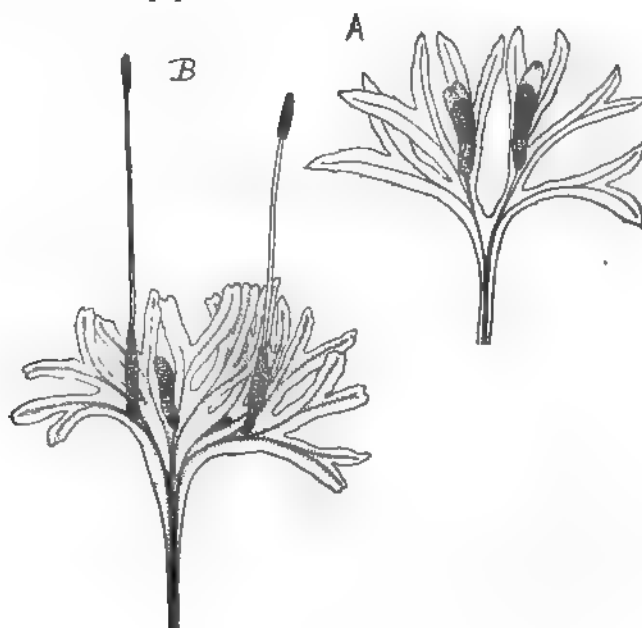


Fig. 5. *Pallavicinia Zollingeri*.

Two fronds of female plants, $\times 2$.

The base of the aerial shoot, or frond, like the rhizome of which it is the continuation, is quite destitute of the wing-like lamina found in the expanded portion of the frond. The cylindrical stalk, as it ascends, becomes gradually flattened dorsi-ventrally and develops a narrow wing on either side which widens until it forms the beginning of the expanded, fan-shaped lamina of the frond. The first dichotomy occurs when the young frond is 3-4 cm. in height. The forking is repeated from two to four times, and there thus results the palmately divided leaf-like shoot, the slender central strands of the delicate segments simulating almost exactly the venation of a true leaf. In the archegonial plants these fan-shaped

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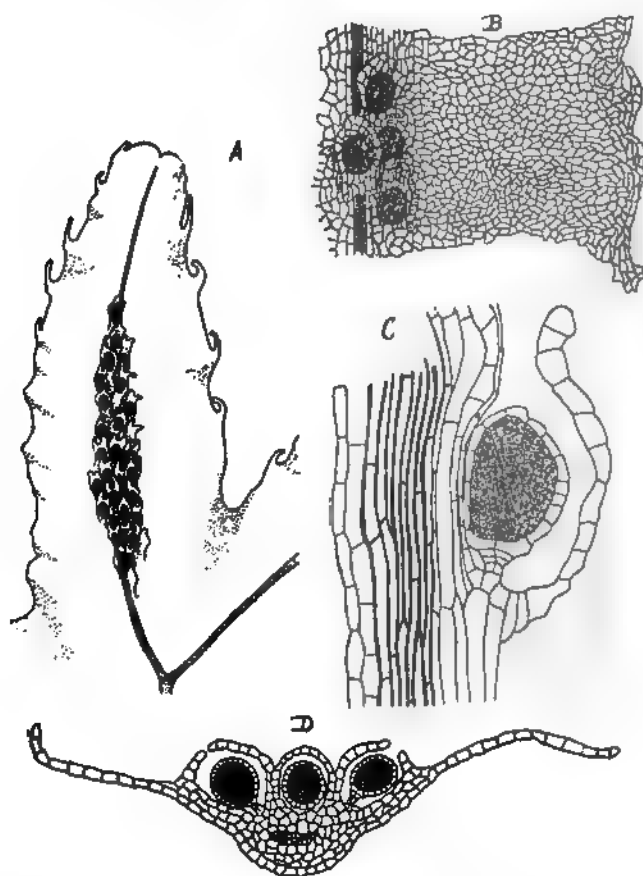


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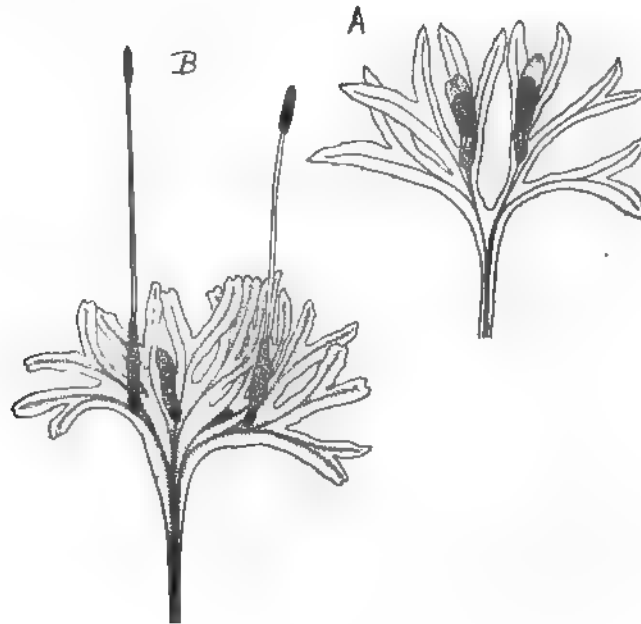


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fronds are about 2.5 cm. in width (Fig. 5). In the male plants they are somewhat smaller. The apex of each segment is indented, and the margin is wavy, with conspicuous teeth, or narrow lobes, which are usually pointed and hooked (Fig. 4, *A*).

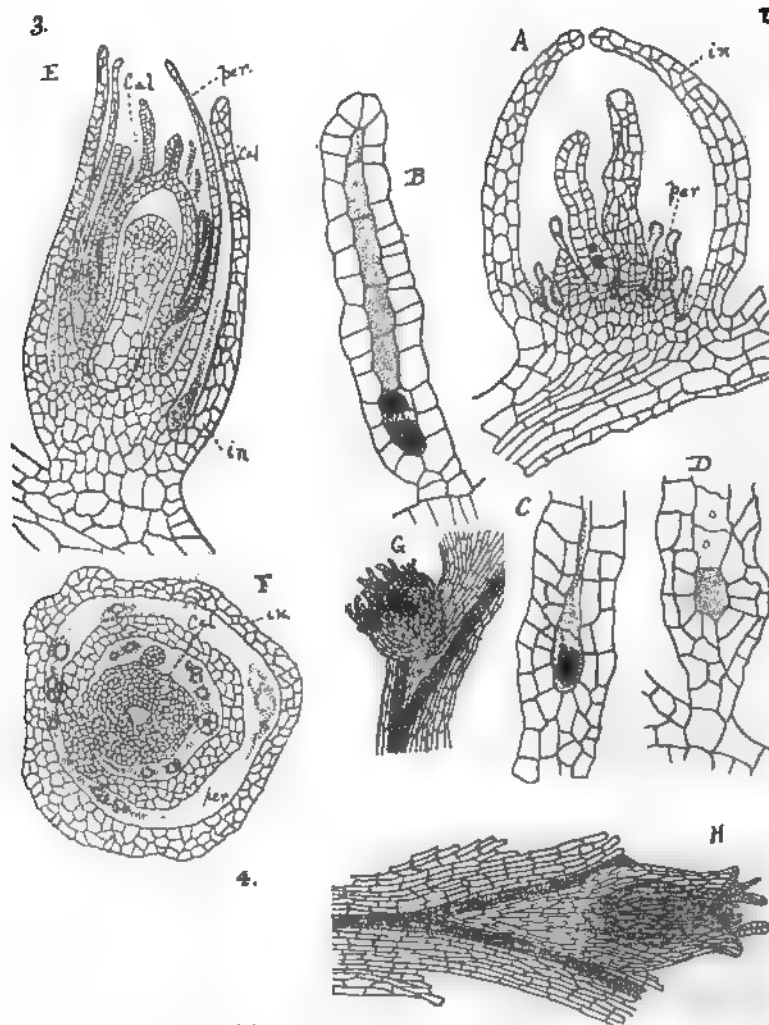


Fig 6. *Pallavicinia Zollingeri*.

- A*. Median section of an archegonial receptacle; *in*, involucre; *per*, perianth.
- B*. A nearly mature archegonium.
- C*, *D*. Ventral part of two old archegonia.
- E*. Receptacle containing an embryo; *cal*, calyptra.
- F*. Transverse section of a similar receptacle.
- G*, *H*. Archegonial receptacles.

The male plant (Fig. 1, *A*) is smaller and more delicate than the female, while the lamina is more strongly corrugated. The antheridia occur in thick patches upon the dorsal surface of the midrib of the ultimate segments of the frond, and each antheridium is subtended by a scale whose margins may be either entire or toothed (Fig. 4, *A*, *B*). More than one crop of antheridia may be formed on a frond, and one sometimes finds old patches of scales with the remains of discharged antheridia on the older portion of the frond whose terminal segments bear younger antheridia. Fig. 4, *D* shows a cross-section of a segment of the frond, passing through a group of antheridia upon its dorsal surface. Fig. 4, *C* shows a longitudinal section of a frond-segment, passing through a nearly ripe antheridium, covered by its subtending scale.

The archegonial receptacles (Fig. 6, *G*, *H*) arise very close to the point where two segments of the frond diverge, and not infrequently actually at the fork, although not as a marginal structure. As the receptacle grows it overlaps the fork; but careful examination shows that it does not arise from the margin, but from a point some distance from it between two of the costae. Several archegonial receptacles may occur on a single frond, and always near the base of the lamina. Receptacles of quite different ages occur in close proximity, so apparently the development is not necessarily acropetal. The material was too old to show the young archegonia, and for the present the question as to the exact origin of the young receptacle must remain in doubt.

Pallavicinia radiculosa (Sande) Schiffner

Pallavicinia radiculosa is the largest species of the genus, and a most striking liverwort. The specimens used in these investigations were collected at Tjipanas, some remarkable hot springs on Mt. Pangerango, at an elevation of 2140 metres. The plants grow in large loose mats where the warm water oozes out of the mountain side. Tjipanas is the original locality for the species, and it has been collected at this place by a number of botanists. Schiffner states [2] that it is also known from Borneo, and Stephani [1] gives also a station in the Island of Mergui in the Bay of Bengal. It was collected in January, 1913, by Professor Campbell near Taiping in the Federated Malay States, growing upon a dripping bank, under much the same conditions as in Java, except that the location was only a few hundred feet above sea level instead of at an elevation of 2000 metres. The difference is to be explained by the fact that in Java the necessary heat was furnished by the hot springs about which it was growing. It is highly probable that further search will show the plant to occur in other parts of the Malayan region.

the conducting tissue is absent, and there is no connection between it and that of the older shoot from which the branch has arisen (Fig. 2, *B*).

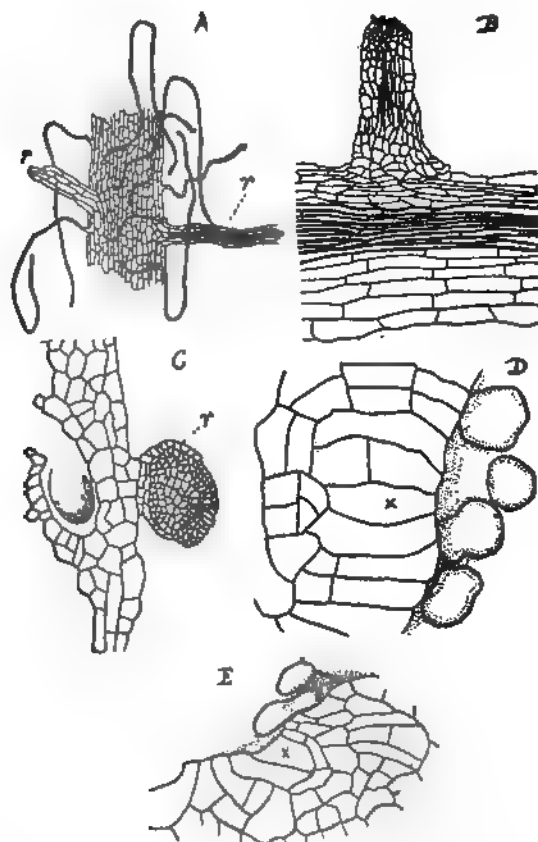


Fig. 2. *Pallavicinia Zollingeri*.

- A. Part of the basal region of a frond, showing rhizoids, and two ventral branches, *r*.
- B. Median longitudinal section of the base of a shoot passing through a young ventral branch. The conducting tissue of the main shoot and the branch are not continuous.
- C. A ventral shoot (*r*), growing from the surface of the frond of an antheridial plant. The remains of an antheridium may be seen upon the dorsal surface.
- D. The apical region of the shoot shown in C. *x*, the apical cell.
- E. Apical region of a ventral shoot.

The other initial cells may never develop beyond cutting off a small number of segments. These groups of cells may be recognized for a long time on the surface of the shoot, near its base. Sometimes, however, one or more of these cell-groups resume activity, and from them

arise the slender, apparently adventitious branches which are often met with upon the ventral side of the shoots. These slender cylindrical root-like branches may be only a few cells in thickness, and are traversed by a conspicuous strand of conducting tissue, which can easily be traced to the base of the shoot, where it ends abruptly, and does not join the corresponding strand of the main axis. The occurrence of ventral branches is confined mainly to the prostrate portion of a shoot, or to the base of the stalk of the frond. They may, however, occasionally arise from the ventral side of the expanded portion of a frond, and in the only case observed (Fig. 2, G) the shoot was much broader than those arising from the stalk of the frond or from the prostrate rhizome. The frond from which this shoot arose bore empty antheridia.

The apical cell of *P. decipiens*, a species from Ceylon, strongly resembling *P. Zollingeri* in general appearance, has been carefully studied

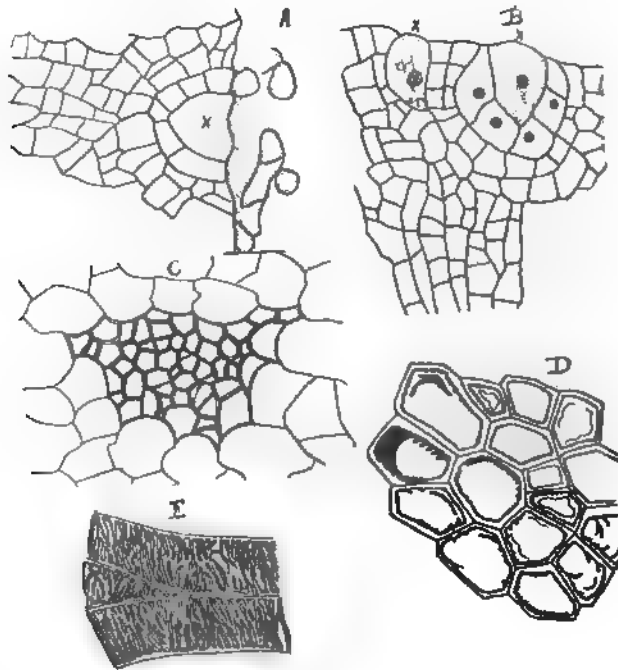


Fig. 3.

- A. Vertical section of the growing point of a frond segment of *Pallavicinia Zollingeri*.
- B. Horizontal section of the same. *x*, primary apical cell; *x'*, secondary apical cell.
- C. Cross-section of the conducting strand from the stalk of the frond of *Pallavicinia Zollingeri*.
- D. Some of the conducting cells, more highly magnified.
- E. Longitudinal section of conducting cells.

by Farmer [1]. In this species the form of the apical cell is quite different from that of *P. Zollingeri*. It has the form of a three-sided prism. Four sets of segments are formed, three lateral and one basal, instead of the two sets of lateral segments found in *P. Zollingeri*.

Long, slender, simple rhizoids which are developed from the superficial cells, are formed in great numbers upon the prostrate rhizomes. Here and there occur isolated scales, one cell in thickness, and very much like those which cover the antheridia.

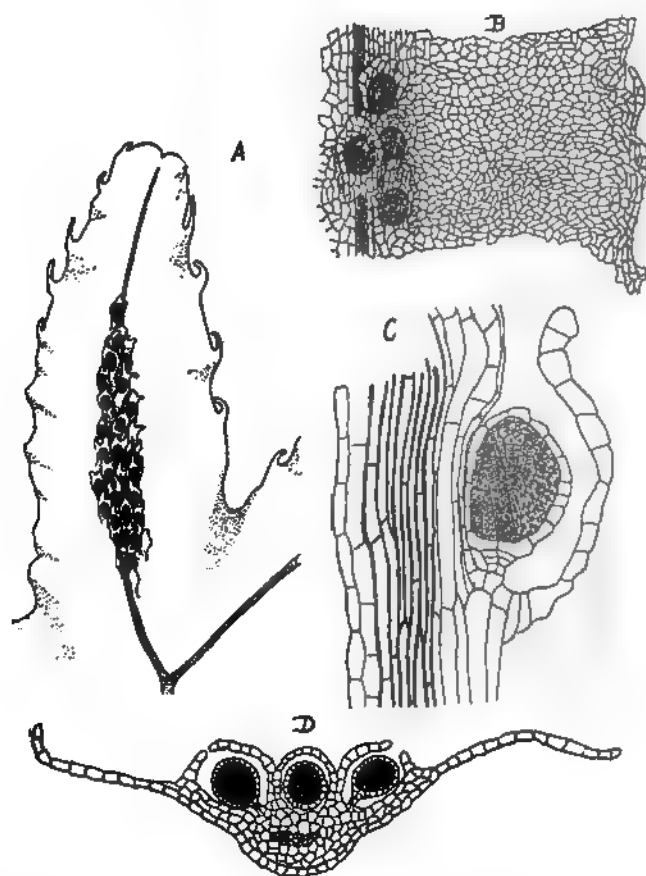


Fig. 4. *Pallavicinia Zollingeri*.

- A. Segment of the frond of an antheridial plant, x 25 (about).
- B. A portion of A, more highly magnified.
- C. Longitudinal section of the shoot, passing through an antheridium, and showing the strand of conducting tissue.
- D. Cross-section of a segment of the frond, showing the position of the antheridia on the dorsal surface of the midrib.

The cells of the ventral part of the midrib have thick walls in which are pits elongated transversely. These pits are in lines extending round the cell, and forming partial spirals, this being perhaps due to the longitudinal growth of the cell (Fig. 3, *D*, *E*). These cells, which are presumably conducting cells, have very little protoplasmic contents, thus agreeing with Tansley's description of the corresponding tissue in other members of the genus [1]. The cells of the cortical tissue of the rhizome contain many starch granules, in this respect recalling Cavers' figures of *Mörkia flowtowiana* [2].

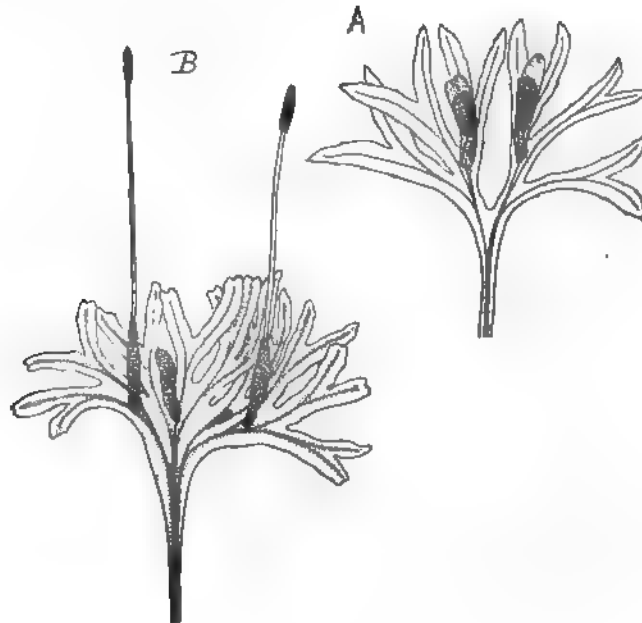


Fig. 5. *Pallavicinia Zollingeri*.

Two fronds of female plants, x 2.

The base of the aerial shoot, or frond, like the rhizome of which it is the continuation, is quite destitute of the wing-like lamina found in the expanded portion of the frond. The cylindrical stalk, as it ascends, becomes gradually flattened dorsi-ventrally and develops a narrow wing on either side which widens until it forms the beginning of the expanded, fan-shaped lamina of the frond. The first dichotomy occurs when the young frond is 3-4 cm. in height. The forking is repeated from two to four times, and there thus results the palmately divided leaf-like shoot, the slender central strands of the delicate segments simulating almost exactly the venation of a true leaf. In the archegonial plants these fan-shaped

fronds are about 2.5 cm. in width (Fig. 5). In the male plants they are somewhat smaller. The apex of each segment is indented, and the margin is wavy, with conspicuous teeth, or narrow lobes, which are usually pointed and hooked (Fig. 4, *A*).

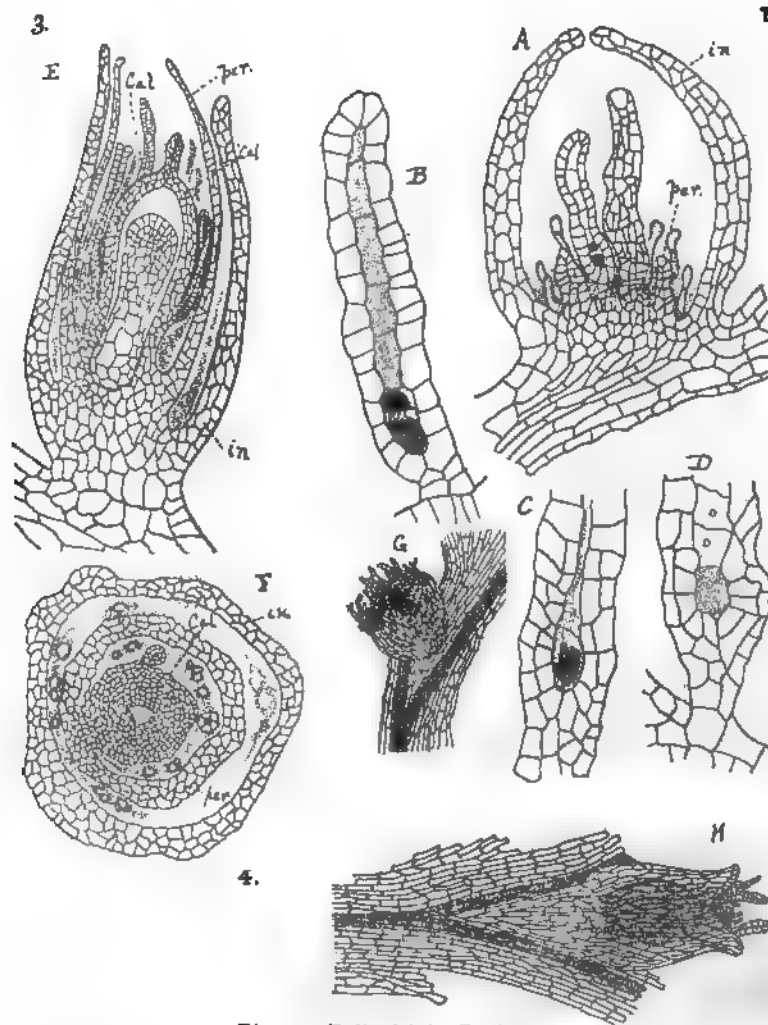


Fig. 6. *Pallavicinia Zollingeri*.

- A.* Median section of an archegonial receptacle; *in*, involucre; *per*, perianth.
B. A nearly mature archegonium.
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E. Receptacle containing an embryo; *cal*, calyptra.
F. Transverse section of a similar receptacle.
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The male plant (Fig. 1, *A*) is smaller and more delicate than the female, while the lamina is more strongly corrugated. The antheridia occur in thick patches upon the dorsal surface of the midrib of the ultimate segments of the frond, and each antheridium is subtended by a scale whose margins may be either entire or toothed (Fig. 4, *A*, *B*). More than one crop of antheridia may be formed on a frond, and one sometimes finds old patches of scales with the remains of discharged antheridia on the older portion of the frond whose terminal segments bear younger antheridia. Fig. 4, *D* shows a cross-section of a segment of the frond, passing through a group of antheridia upon its dorsal surface. Fig. 4, *C* shows a longitudinal section of a frond-segment, passing through a nearly ripe antheridium, covered by its subtending scale.

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Pallavicinia radiculosa (Sande) Schiffner

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The plant has an elongated prostrate thallus with a thick and very conspicuous midrib (Figs. 7, *A*, 8, *E*). The thallus may reach a length of upwards of 20 cm. with a width of 7 mm. The thallus is usually forked and is attenuated posteriorly, due to the gradual suppression of the lamina. The midrib itself is practically of equal diameter throughout, and projects strongly on the ventral side. As already stated, the wings of the thallus become gradually narrower toward the base of the

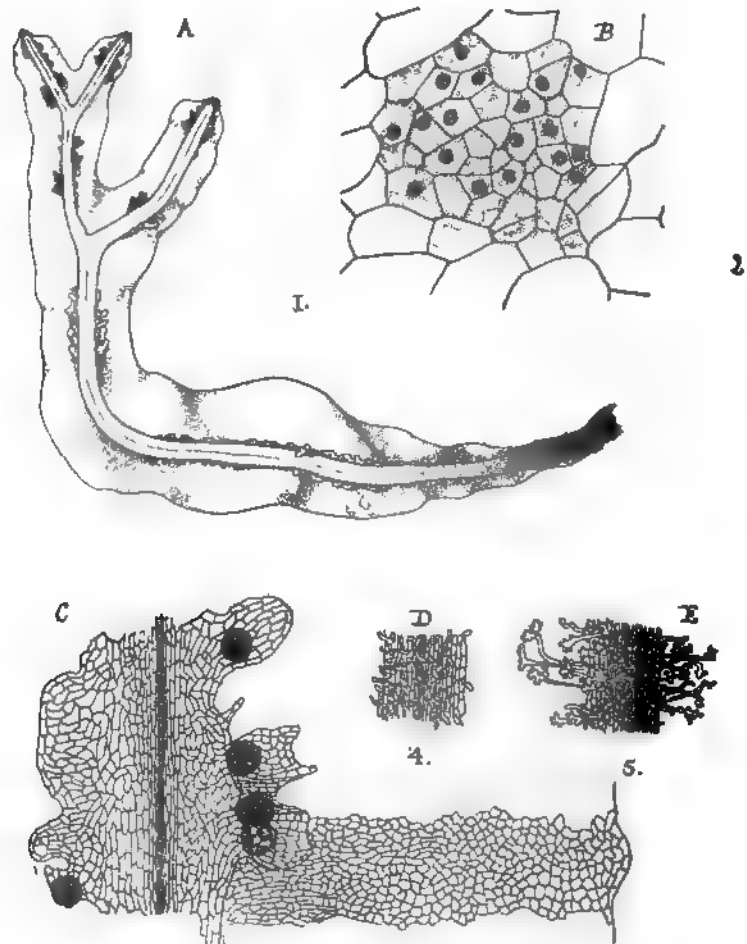


Fig. 7. *Pallavicinia radiculosa*.

- A.* Male plant, x 3.
- B.* Cross-section of young conducting tissue, very highly magnified.
- C.* Midrib of the thallus, showing the position of the antheridia.
- D.* Young; *E.* older rhizoids.

shoot, and finally almost completely disappear, so that the oldest part of the shoot is almost perfectly cylindrical. The surface of the wings is smooth and the margin undulate, but not developing lobes or teeth, in this respect differing from *P. Zollingeri*.

The ventral surface of the midrib is completely covered by short papillate hairs, like the true rhizoids, outgrowths of single superficial cells. These papillae become longer in the older parts of the thallus, and gradually give place to the long, dark purple-red rhizoids, which in the basal region form a dense mass. These conspicuous rhizoids (Fig. 7, *D*, *E*) are composed of a single cell, but develop a number of short branches at the apex. As in *P. Zollingeri* ventral, apparently adventitious branches are developed which much resemble the main shoots, but are somewhat smaller. It is highly probable, however, that under favorable circumstances these develop into perfectly normal plants. Their origin was not investigated, but it is probable that they arise in much the same way as the similar branches in *P. Zollingeri*.

Quite frequently the wings of the thallus are attenuated anteriorly as well as posteriorly, and as a result the apex of the shoot is somewhat pointed. In form and size the male and female plants are very similar.

The antheridia form a row on each side of the midrib, and are arranged in elongated groups separated by sterile areas (Fig. 7, *A*). They are attached to the side of the midrib and project laterally, but are directed slightly forward. They are covered by broad scales, one cell in thickness, which arise at intervals behind an antheridium and, passing above it, extend along the side of the midrib as a shelf-like projection. These scales are deeply incised, scalloped, and sometimes toothed, varying much in size and shape. The scales may subtend a single antheridium or a small group. Sometimes no antheridium is formed under a scale (Fig. 7, *C*). The antheridia arise in strictly acropetal succession, and the scales near the apex cover immature antheridia only.

The female plants (Fig. 8, *E*) closely resemble the males, except for the different appearance of the reproductive organs. The archegonial receptacles resemble those of *P. Zollingeri*, but are much larger. They arise at various points upon the dorsal surface of the midrib, but there is no connection between their formation and the branching of the thallus. They possess the conspicuous perianth and involucre characteristic of the other members of the genus. The archegonia are much more numerous than in either of the other species examined. The involucre, also, is more conspicuous, having a deeply incised spreading margin, which is strongly revolute.

The growing point of the shoot lies at the bottom of a more or less evident notch, formed by the active growth of the tissue on each side of the apical cell. The latter has segments cut off only from its two lateral faces. Seen in horizontal section (Fig. 8, C) it is a narrow triangle, with

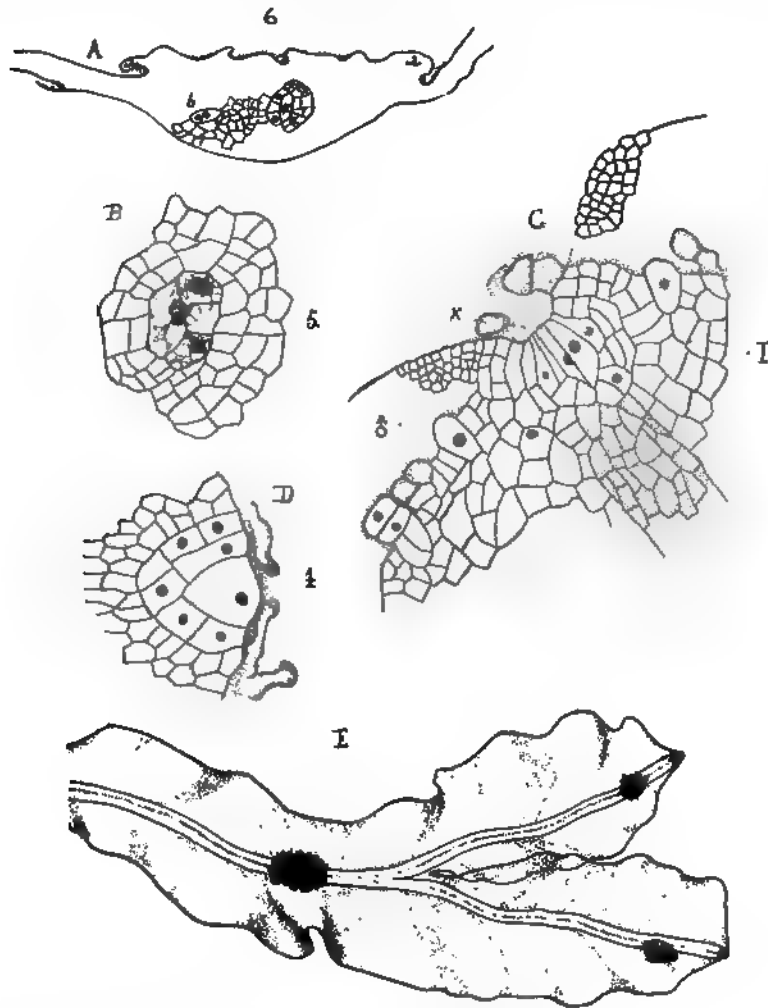


Fig. 8. *Pallavicinia radiculosa*.

- A. Cross-section of the thallus apex, showing the apical cell, *x*, and the apex, *b*, of a branch, *a, a* are the young scales subtending antheridia.
- B. The apex of the shoot, more highly magnified.
- C. Horizontal section of the shoot apex, showing the apical cell, *x*, and a very young antheridium.
- D. Vertical longitudinal section of the apex.
- E. Archegonial plant, $\times 3$.

the sides converging somewhat in front. In vertical longitudinal section it appears also triangular, but very much broader (Fig. 8, *D*). A cross-section (Fig. 8, *A, B*) shows that the lateral faces meet above and below at an acute angle, so that the whole cell has somewhat the form of a triangular wedge, with the edges directed respectively dorsally and ventrally. The segments cut off from the lateral faces are large, and ordinarily are formed alternately right and left. Before a dichotomy occurs, however, more than one segment may be cut off successively on one side, and one of these presumably gives rise to the apical cell of the new branch, the branching being in the strict sense of the word not a true dichotomy.

In horizontal and vertical longitudinal sections the arrangement of the segments derived from the apical cell is much the same. In cross-section the elongated, almost oval cell appears surrounded by the crescent-shaped segments (Fig. 8, *A, B*). Fig. 8, *A* shows a cross-section of the thallus apex shortly after the dichotomy is complete, and the growing point of the new branch is established. The lobes *a, a'*, are the beginnings of young antheridial scales, while the group of cells, *b*, is the growing point of the new branch. The divisions of the apical cell are not in quite the same plane as those of the original apex.

Each segment cut off from the apical cell first divides transversely into an adaxial and an abaxial cell. The latter cell divides only by walls perpendicular to the plane of the thallus, and contributes to the wing or lamina of the thallus, which remains permanently but a single cell in thickness. The adaxial cell divides crosswise into a middle and an inner cell. The former forms the outer tissues of the midrib, and also from it arise the antheridia. The innermost cell, by subsequent repeated longitudinal divisions, gives rise to the narrow cells of the conducting strand traversing the midrib. These cells at first have dense contents, which later mostly disappear. A section of the young conducting strand is shown in Fig. 7, *B*.

The entire apex of the shoot, and the younger antheridia, are bathed in mucilage which is secreted by two-celled glandular hairs developed from the outer cells of the young segments; and similar mucilage secreting hairs are also found among the antheridia.

Pallavicinia Levieri Schiffner

Pallavicinia Levieri, the third species considered here, is much less restricted in its distribution. It is quite common in the neighborhood of Tjibodas in Java, at an elevation of 1400-1500 metres, and material was collected at several points. It has been reported from several other sta-

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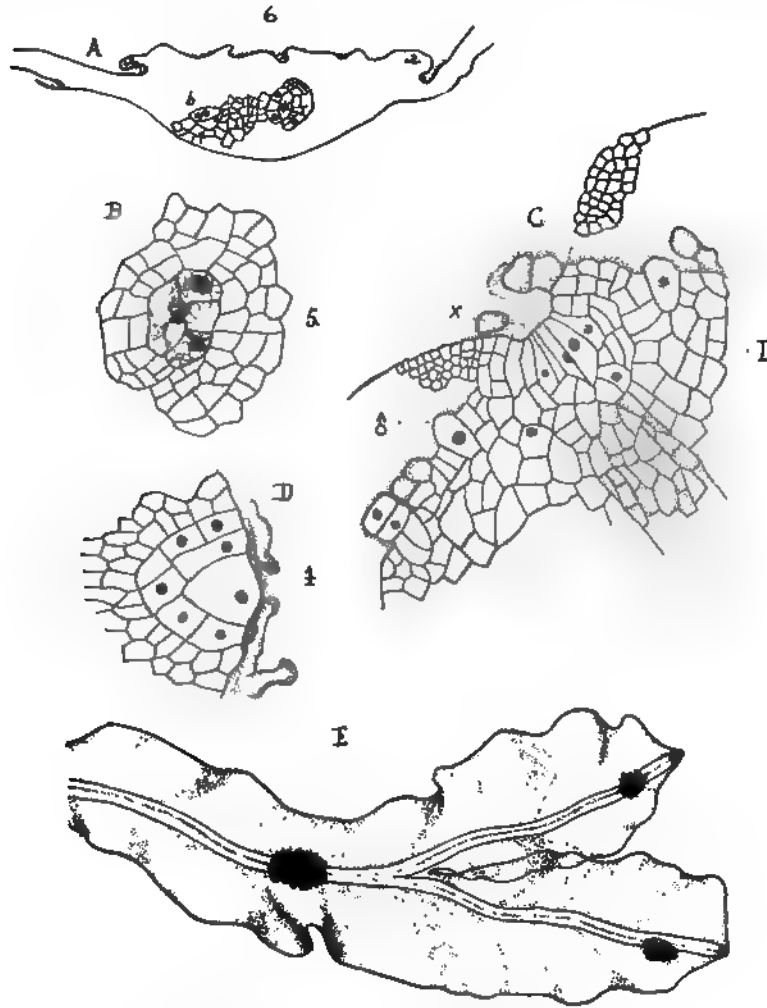


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tions in Java and Sumatra, and according to Stephani occurs also in the Pacific Islands, Tahiti and Hawaii. It will probably be found in other parts of Polynesia.

The plant (Fig. 9) is smaller than *P. radiculosa*, and there is much more difference in size between the male and female plants.

Like *P. radiculosa*, the thallus is prostrate. It usually occurs on the trunks of trees, among other liverworts and mosses, and does not form masses of large size. The plants are very delicate in texture, and the male plants are noticeably smaller than the females or the sterile plants. They

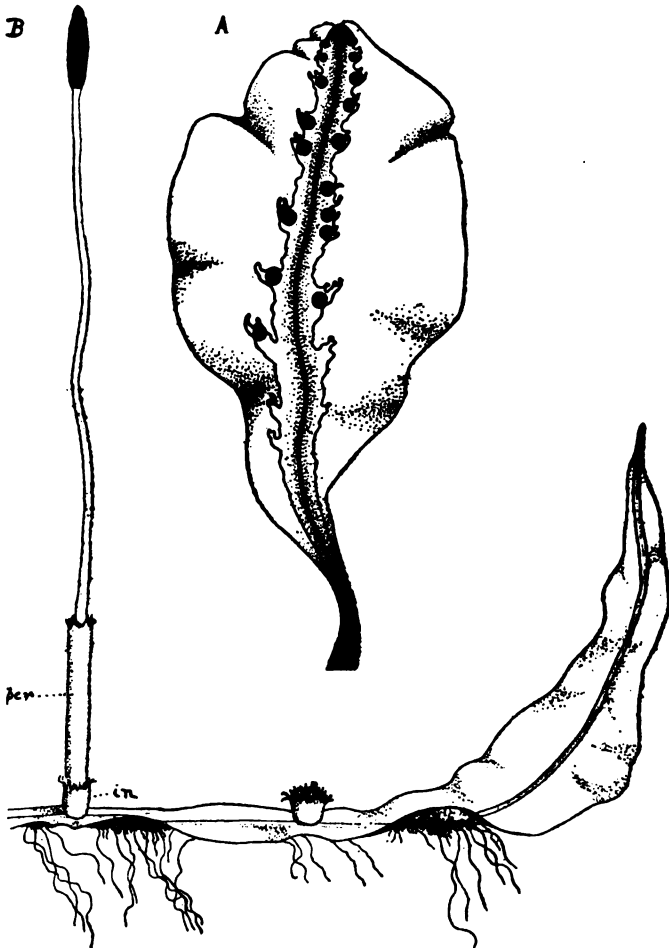


Fig. 9. *Pallavicinia Levieri*.

A. Male plant, x 8.

B. Female plant, x 4.

measure only about 2 cm. in length and 4-5 mm. in width. The female plants (Fig. 9, *B*) are about 10 cm. in length and 7 mm. wide.

The wings of the thallus are relatively very wide, and as usual but one cell thick. They are waved slightly on the margin, which is entire except for an occasional cell which projects slightly so as to form an inconspicuous tooth. Anteriorly the lamina of the antheridial plant narrows abruptly to the apex of the shoot, which is indented. The midrib projects strongly on the ventral side. The rhizoids are much less numerous than in *P. radiculosa*, and quite different in color, being a rather light brown, instead of the deep purple-red found in *P. radiculosa*. The conducting strand of the midrib is much like that of *P. radiculosa*.

From the sides of the midrib in the male plant extend a series of scales which form a more or less continuous shelf-like structure. These scales have their free margins deeply lobed and toothed, and underneath the shelf formed by these confluent scales the antheridia occur, either singly or in groups of several together (Fig. 9, *A*). The antheridia arise in acropetal succession, and are arranged in a somewhat broken row along each side of the midrib. They are more completely covered by the subtending scales than is the case in *P. radiculosa*, and are not so evidently divided into groups separated by sterile areas.

The antheridia, to judge from a somewhat cursory examination, appear to agree in all essential details of structure with those of *P. radiculosa*.

The apical cell of the thallus is not so deeply placed as in *P. radiculosa*, but a study of horizontal and vertical sections shows that it has the same form. On the ventral surface of the midrib in *P. Levieri*, as in *P. radiculosa*, there may occasionally be found small groups of meristematic cells, which appear dormant, and do not show a definite apical cell. The smaller groups are slightly sunken; the larger ones, perhaps having resumed activity, form hemispherical protuberances. The origin and development of these groups of cells is apparently the same as the similar ones in *P. Zollingeri*, and probably under favorable conditions these give rise to normal branches.

The archegonial plants of *P. Levieri* (Fig. 9, *B*), besides being much larger than the male plants, show also a very different appearance at the apex of the shoot. There is no indentation at this point, but the thallus is prolonged into a nearly cylindrical process of some length, in which the wings are quite suppressed. It is possible that an examination of a larger number of individuals might show that this difference in apices of the male and female plants is not constant. The rhizoids of the female plants

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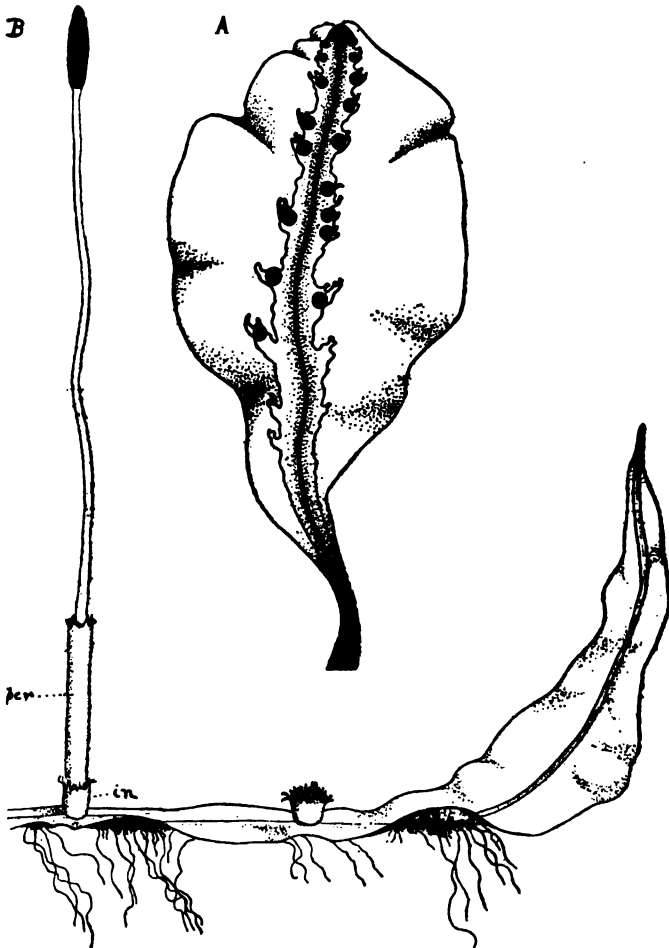


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The plant (Fig. 9) is smaller than *P. radiculosa*, and there is much more difference in size between the male and female plants.

Like *P. radiculosa*, the thallus is prostrate. It usually occurs on the trunks of trees, among other liverworts and mosses, and does not form masses of large size. The plants are very delicate in texture, and the male plants are noticeably smaller than the females or the sterile plants. They

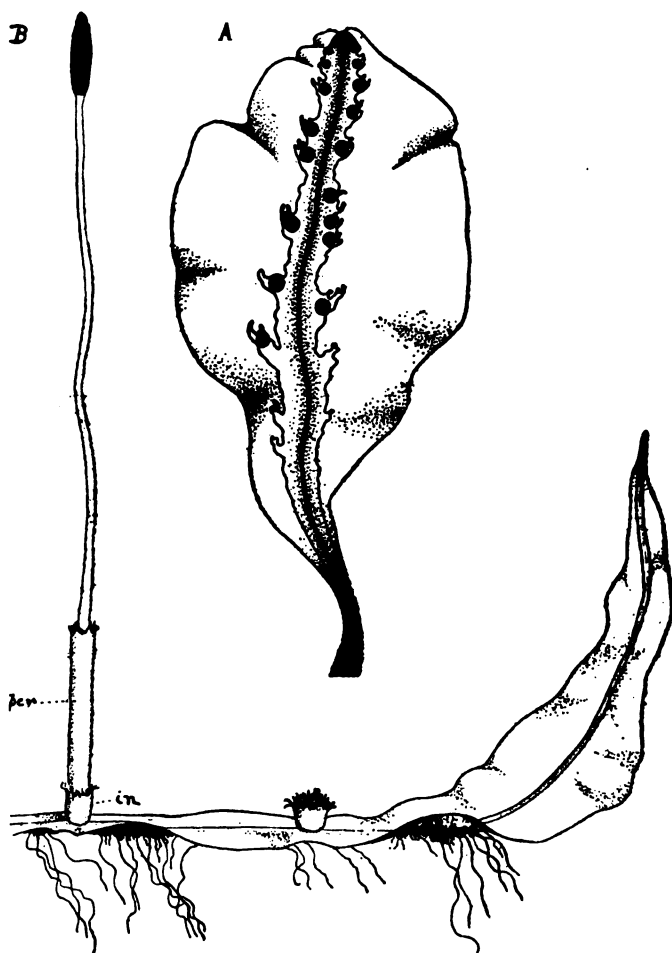


Fig. 9. *Pallavicinia Levieri*.

A. Male plant, $\times 8$.

B. Female plant, $\times 4$.

measure only about 2 cm. in length and 4-5 mm. in width. The female plants (Fig. 9, *B*) are about 10 cm. in length and 7 mm. wide.

The wings of the thallus are relatively very wide, and as usual but one cell thick. They are waved slightly on the margin, which is entire except for an occasional cell which projects slightly so as to form an inconspicuous tooth. Anteriorly the lamina of the antheridial plant narrows abruptly to the apex of the shoot, which is indented. The midrib projects strongly on the ventral side. The rhizoids are much less numerous than in *P. radiculosa*, and quite different in color, being a rather light brown, instead of the deep purple-red found in *P. radiculosa*. The conducting strand of the midrib is much like that of *P. radiculosa*.

From the sides of the midrib in the male plant extend a series of scales which form a more or less continuous shelf-like structure. These scales have their free margins deeply lobed and toothed, and underneath the shelf formed by these confluent scales the antheridia occur, either singly or in groups of several together (Fig. 9, *A*). The antheridia arise in acropetal succession, and are arranged in a somewhat broken row along each side of the midrib. They are more completely covered by the subtending scales than is the case in *P. radiculosa*, and are not so evidently divided into groups separated by sterile areas.

The antheridia, to judge from a somewhat cursory examination, appear to agree in all essential details of structure with those of *P. radiculosa*.

The apical cell of the thallus is not so deeply placed as in *P. radiculosa*, but a study of horizontal and vertical sections shows that it has the same form. On the ventral surface of the midrib in *P. Levieri*, as in *P. radiculosa*, there may occasionally be found small groups of meristematic cells, which appear dormant, and do not show a definite apical cell. The smaller groups are slightly sunken; the larger ones, perhaps having resumed activity, form hemispherical protuberances. The origin and development of these groups of cells is apparently the same as the similar ones in *P. Zollingeri*, and probably under favorable conditions these give rise to normal branches.

The archegonial plants of *P. Levieri* (Fig. 9, *B*), besides being much larger than the male plants, show also a very different appearance at the apex of the shoot. There is no indentation at this point, but the thallus is prolonged into a nearly cylindrical process of some length, in which the wings are quite suppressed. It is possible that an examination of a larger number of individuals might show that this difference in apices of the male and female plants is not constant. The rhizoids of the female plants

of *P. Levieri* were much longer than those of either of the other species that were studied, sometimes reaching a length of a centimeter or more. The archegonial receptacles are smaller than those of *P. radiculosa*, and are more like those of *P. Zollingeri*.

The Antheridium

Of the three species examined, *P. radiculosa* was the best for the study of the young antheridium, as most of the stages of development were found in the material.

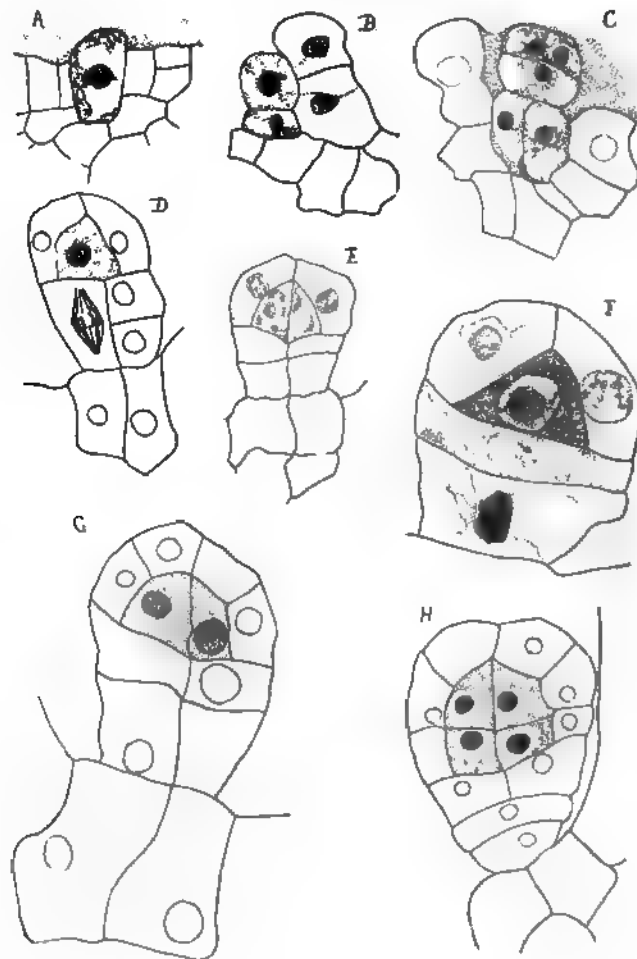


Fig. 10. *Pallavicinia radiculosa*.

Early stages in the development of the antheridium.
Longitudinal sections. *D, F*, are cut in a plane at right angles to *E, G*.

The young antheridium arises very near the apex of the thallus, as a single large cell, projecting from the side of the midrib (Fig. 10, *A*). The first division wall is transverse, and separates a basal cell which takes no part in the development of the antheridium itself, and an outer cell, which is the real mother-cell of the antheridium (Fig. 10, *B*). At about the same time that this transverse division is formed in the young antheridium, certain neighboring superficial cells of the midrib become evident, which later form special structures accompanying the antheridia. Some of these "companion cells" secrete the mucilage which bathes the young antheridia; while others, not always readily distinguishable from the earliest stages of the antheridia themselves, finally develop into the characteristic scales covering the older antheridia, somewhat as described by Campbell [1] for *Aneura*.

The divisions in the antheridium show some variation. Of the two cells formed by the first transverse wall, the inner one divides by a vertical wall into two cells, which remain sunk in the midrib and usually divide no further (Fig. 10, *C-E*), and may usually be recognized at the base of the stalk in the fully developed antheridium.

The first wall in the antheridium itself is also transverse. Of the two cells thus formed, the lower gives rise to the stalk of the antheridium, and also to the layer of cells separating the sperm-cells from the stalk of the antheridium. The outermost of the two original cells divides first by a median vertical wall, and each of these cells is next divided by a nearly periclinal wall into two very unequal cells. This wall intersects both the outside wall of the antheridium and the median wall, and is quickly followed by a second similar wall which meets the first one and also intersects the median wall. A cross-section of the antheridium at this stage (Fig. 11, *A*) shows two triangular central cells surrounded by four narrow peripheral ones. The young antheridium at this stage closely resembles that of *Porella Bolanderi* (Campbell [1], Fig. 52), and differs from the usual type of the Jungermanniales, where, according to Leitgeb ([1], II, p. 44) these two peripheral cells do not extend to the top of the antheridium, and a third peripheral cell is cut off before the separation of the central cell is complete. The appearance of longitudinal sections of the young antheridium, cut respectively in the plane of the first median wall, and at right angles to it, are shown in Fig. 10, *D, G, E, H*. Cross-sections of similar stages are shown in Fig. 11, *A, C*. The next divisions take place in the peripheral cells, and in the stalk, the two primary spermatogenous cells remaining undivided until the stalk is well developed and

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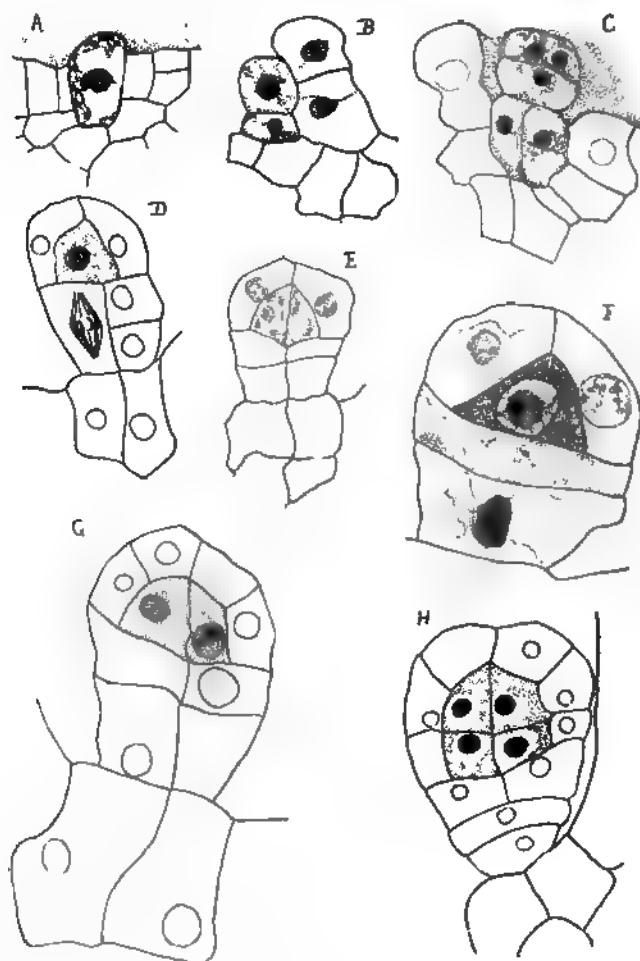


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the four original peripheral cells of the antheridium have each divided at least once (Fig. 10, *G*). The first division in the central cells is a transverse one, quickly followed by a vertical division, so that whether in longitudinal- or cross-section, the central cells are arranged quadrant-wise (Figs. 10, *H*, 11, *B*). The subsequent divisions follow rapidly, but without any

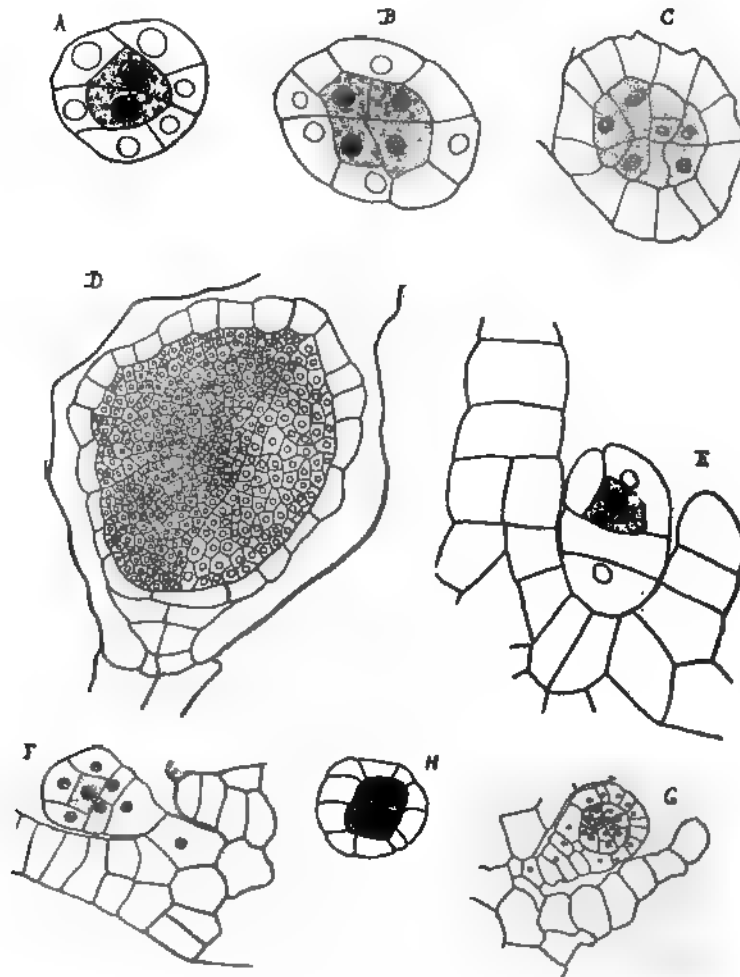


Fig. 11.

A-D. P. radiculosa; E-G, P. Levieri.

A-C. Cross-section of young antheridia.

D. Longitudinal section of a nearly ripe antheridium.

E-G. Longitudinal sections; H, transverse section.

definite succession being evident. There is but little displacement of the original division-walls, so that up to the last division of the sperm-cells the limits of the earlier divisions can be plainly traced, and the spermatocytes are in irregular blocks marking the early divisions. While within these blocks of cells the nuclei are usually in the same stage of mitosis, each segment of the antheridium may show a different stage of nuclear division. This was also noted by Humphrey in his study of *Fossombronia longiseta* [1].

Spermatogenesis

Pallavicinia Zollingeri proved the best species for a study of spermatogenesis, and the investigation of this subject was mainly devoted to that species. In the earliest stages procurable the final mitosis had taken place, and the two resulting nuclei had begun to assume the elongated form found in the completed spermatozoid (Fig. 12, A, B). The final mitosis is accompanied by the formation of a delicate but perfectly evident division wall separating the pair of spermatocytes. The spermatocytes at this stage closely resemble those of *Calycularia radiculosa* (Campbell [2], Fig. 7). The length of the young spermatocyte in *P. Zollingeri* is about 7μ . Fig. 12, A, shows the pair of spermatocytes at this stage. The blepharoplast (*bl.*) now has the form of a somewhat curved rod at the end of the elongated nucleus. Sometimes the blepharoplasts of the pair of spermatocytes are at the same end, sometimes at opposite ends. With the development of the spermatozoid, the blepharoplast, as usual, elongates rapidly, and becomes a slender curved rod, hooked at the free apex, and following the curve of the elongating nucleus which becomes crescent-shaped, with the anterior end more or less conspicuously attenuated (Fig. 12, D-K). In some of the preparations there was present between the blepharoplast and the anterior part of the sperm-nucleus a thick, rod-shaped body, which perhaps represents the "Nebenkörper" described by Ikeno [1] in *Marchantia*. The cilia arise from the blepharoplast a short distance back of the apex, and become finally about as long as the body of the free spermatozoid, which is about 16μ in length.

The development of the spermatozoid in *P. radiculosa* was found to be so much like that of *P. Zollingeri* that no attempt was made to follow it in detail. However, some of the later stages in the last mitosis of the spermatocyte, which were not seen in *P. Zollingeri*, were secured in *P. radiculosa*. The nuclei are so small that difficulty was experienced in determining the number of chromosomes, which is probably eight (see Fig. 12, N-Q). The spermatocytes are separated, as in *P. Zollingeri*, by a delicate membrane, which is more difficult to demonstrate

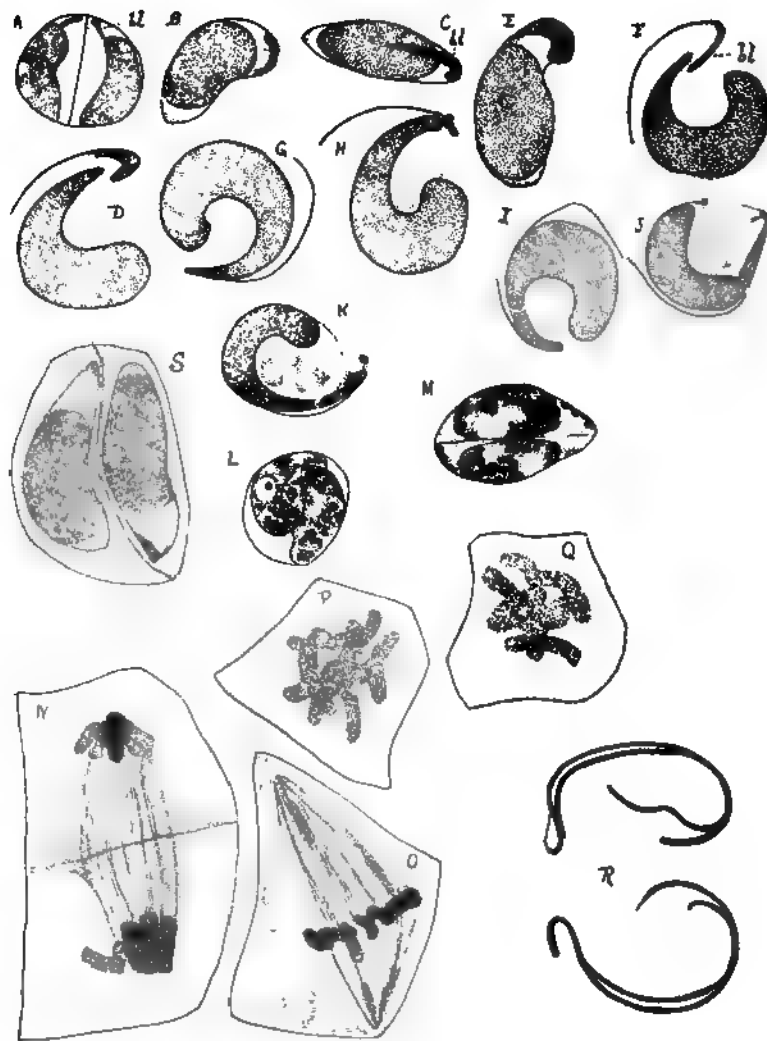


Fig. 12.

A-M. Spermatogenesis in *Pallavicinia Zollingeri*.

L. Pair of spermatocytes seen from above.

M. Similar spermatocytes seen in profile.

N, O. Last mitosis in the spermatocytes of *Pallavicinia radiculosa*.

P-Q. Polar view.

R. Spermatozooids of *P. Zollingeri*.

S. Pair of spermatocytes of *P. Levieri*.

All magnified about 2,000 times.

than in that species. The best differentiation was secured by Haidenhain's iron-alum-haematoxylin. The blepharoplasts could not be made out, but presumably are present.

A sufficient study of the spermatogenesis in *P. Levieri* was made to show that it is very much like that in the other two species. Fig. 12, S, shows the pair of spermatocytes with the separating membrane and the blepharoplasts. The spermatocytes are somewhat larger than corresponding stages in *P. Zollingeri*, measuring about 9μ in length.

The Archegonium

In all species of *Pallavicinia* the archegonia are in groups surrounded, as already stated, by a double envelope: an outer one, the involucre, much the more conspicuous before the fertilization of an archegonium; and an inner one, which is very small at first, but which after an embryo is formed grows rapidly and forms a conspicuous tubular sheath enclosing the developing sporophyte.

In *P. Zollingeri*, the involucre is cup-shaped, with a lobed margin (Fig. 6, G, H). Within this, and surrounding the base of the archegonial group, is the young perianth, which at this stage does not reach above the level of the venter of the archegonia (Fig. 13). *P. radiculosa* (Fig. 13, A, B, E) differs from *P. Zollingeri* mainly in the much greater number of archegonia in the receptacle, and in the more flaring and deeply fringed involucre. *P. Levieri* is somewhat intermediate in character, both as to the number of archegonia and the form of the involucre (Fig. 13, D).

The receptacle is at first level with the surface of the thallus, but as new archegonia develop it becomes raised and forms a more or less prominent elevation, or placenta, to which the archegonia are attached (Fig. 13, E).

Of the three species examined, *P. radiculosa* was the best for the study of the archegonium, as all stages of development were present in the material. *P. Levieri* also showed most of the stages, but as it differed very little from *P. radiculosa* an exhaustive study was not made. None of the specimens of *P. Zollingeri* showed very young archegonia, but to judge from the few immature archegonia that were seen it does not differ essentially from the other species.

Pallavicinia radiculosa, while agreeing in the main with other anacrogynous *Jungermanniales*, in the development of the archegonium shows certain differences that may be noted.

The youngest archegonia (Fig. 14, A, C) show a stalk composed of two or three cells, and a terminal, approximately hemispherical cell from

which the archegonium itself is developed. In this terminal cell, as in all Hepaticae, three nearly vertical, intersecting walls are formed, surrounding an axial cell. In longitudinal sections two of the peripheral cells are seen, with the axial cell between (B, C); in cross-section, the axial cell appears triangular in shape (F).

The young archegonium as it grows in length becomes divided into two stories, by a transverse wall in each cell, and this first transverse division separates the basal part, or venter, from the neck. In the three peripheral cells, or more commonly in only two of them, a longitudinal division is formed, so that the axial cell is surrounded by five rows of peripheral ones. In the ventral region, other longitudinal walls are formed subsequently, but in the neck region no further longitudinal divisions occur, and a cross-section of the neck shows a central cell surrounded by

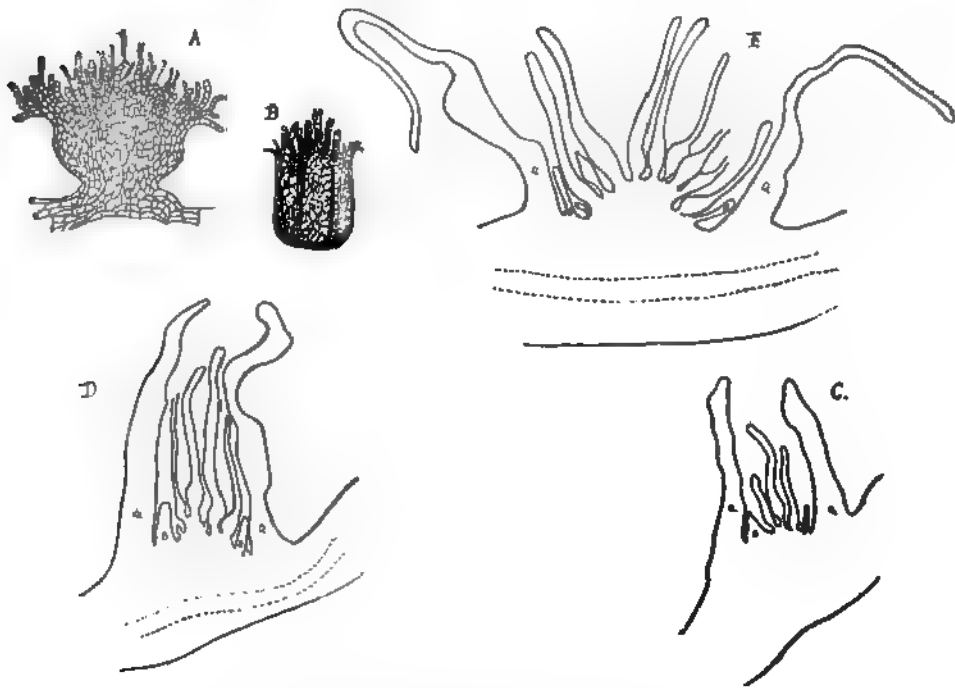


Fig. 13.

- A. Archegonial receptacle of *P. radiculosa*.
- B. The same with the involucre removed.
- C. Section of the receptacle of *P. Zollingeri*.
- D. Section of the receptacle of *P. Levieri*.
- E. Section of the receptacle of *P. radiculosa*.
- a. Involucre; b, perianth.

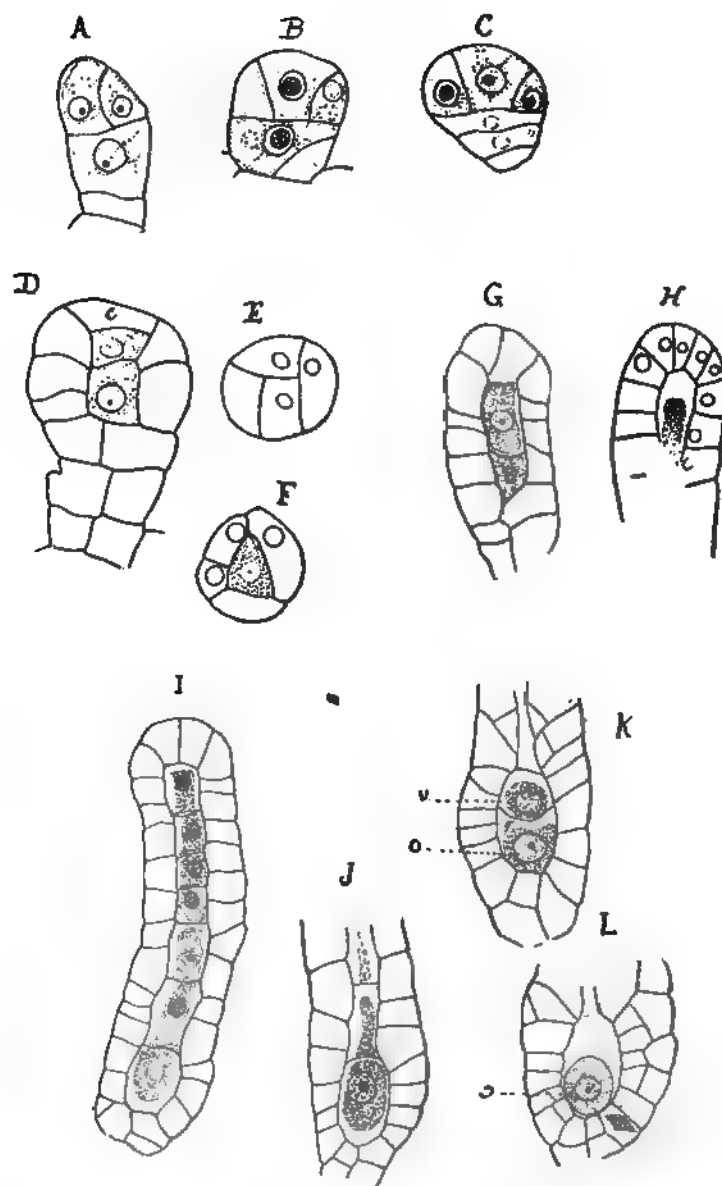


Fig. 14. Development of the Archegonium in *Pallavicinia radiculosa*.

A-F, $\times 450$; G-L, $\times 300$.

A-C. Very young stages, longitudinal sections.

D. A somewhat older one; the cap-cell, *c*, is still undivided.

E. Cross-section of the apex of a somewhat older stage; the divisions are somewhat irregular.

F. Cross-section of a very young archegonium.

G. An older stage.

H. Apex of a still older archegonium, showing a certain amount of apical growth.

I-L. Older stages. *v*, ventral canal-cell; *o*, egg-cell.

five peripheral ones. Occasionally, as in the Marchantiales, there are six peripheral cells, but this is not usual.

The axial cell divides first by a transverse wall, and from the ventral cell arises by a subsequent division, the egg-cell, and the ventral canal cell (Fig. 14, *K*). The upper of the two original axial cells next has cut off from it a terminal, or cap-cell (Fig. 14, *D*). This cell may divide almost at once by two intersecting walls, into four cells arranged quadrant-wise when seen in cross-section; but in *P. radiculosa* this quadrant division is not always evident, and the cap-cell undergoes a considerable number of divisions which add to the upper part of the neck (Fig. 14, *G, H*). There is thus a limited apical growth of the neck, as well as growth due to intercalary divisions of the original neck-cells. This apical growth suggests that found in the moss-archegonium, but is much less prominent, and does not give rise to any of the canal-cells, which are all derived by division from the original neck canal-cell.

Gayet [1] states that he found a similar apical growth in a large number of liverworts, but his statements have not been confirmed by subsequent investigations. (See Campbell [1].)

The original neck canal-cell gives rise to five or six in the mature archegonium (Fig. 14, *I*). The neck may become very much elongated (Fig. 15), a single row of the outer cells containing as many as forty cells. The neck, in these elongated archegonia, usually becomes twisted.

Up to the time of the separation of the egg-cell and ventral canal-cell, the outer part of the venter consists only of a single layer of cells (Fig. 14, *I, J*); but it later becomes divided into two layers by a series of periclinal divisions (Fig. 14, *L*).

P. Levieri differs mainly from *P. radiculosa* in the earlier separation of the cap-cell, and the regular division of this into quadrants, so that usually the cap-cell does not contribute to the growth in length of the archegonium-neck (Fig. 15, *C-E*).

The archegonia of *P. radiculosa* are larger than those of *P. Zollingeri*, and the periclinal walls in the venter seem to be formed at a rather earlier stage. *P. Levieri* resembles *P. radiculosa* in the size and form of the archegonium, but the involucre itself is more like that of *P. Zollingeri*.

After fertilization the egg develops into the embryo, about which is developed the calyptra, formed from the much enlarged venter of the archegonium. The neck of the archegonium is carried up and forms a slender process tipping the massive cylindrical calyptra. The latter is not formed exclusively of the enlarged archegonium venter, but the adjacent tissue also contributes to it. When complete the calyptra forms a sheath

five to ten cells in thickness, enclosing the young sporophyte. With the growth of the calyptra the unfertilized archegonia are carried up, sometimes appearing almost at the summit (Fig. 22, *A*). These sterile archegonia may become much elongated and their necks twisted.

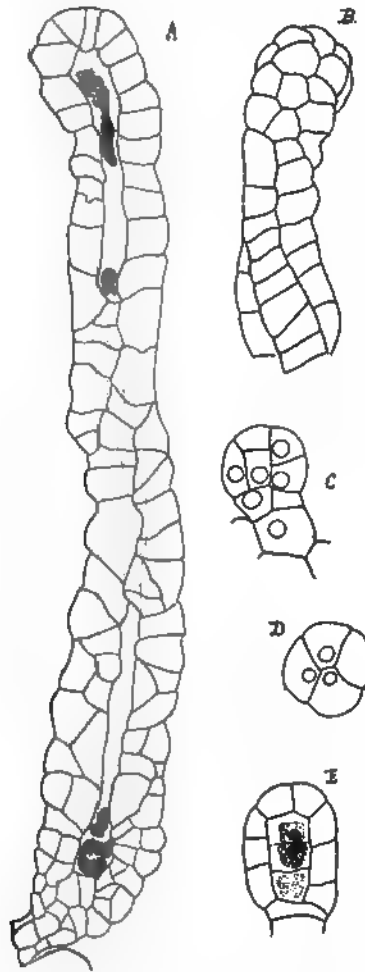


Fig. 15.

- A.* An old archegonium of *Pallavicinia radiculosa*, with much elongated neck.
- B.* Surface of the upper part of a similar archegonium, showing the twisting of the neck.
- C.* Young archegonium of *P. Levieri*, x 300.
- D.* Apex of a somewhat older one, showing quadrant arrangement of the four terminal cells.
- E.* Young archegonium of the same species.

The Embryo

The only account of the development of the sporophyte in the genus *Pallavicinia* that we have been able to find is that of *P. decipiens*. In this species Farmer [1] gives a brief description and figures of early stages of the embryo, which seems to differ a good deal from that of *P. Zollingeri* and *P. radiculosa*, and to more nearly resemble that of *Mörkia hibernica*. (See Leitgeb [1], Pt. III, Pl. vi.)

While the sections of the embryos that were obtained were more or less badly shrunken, still the most important points in their development could be made out pretty well. Most of the younger stages found were of *P. Zollingeri*, but a few were also found in *P. radiculosa* and *P. Levieri* which agreed closely with the former species.

The youngest specimen that was examined consisted of two nearly equal cells, separated by a transverse wall (Fig. 16, A). The next division probably is also transverse, and arises in the upper cell, dividing the embryo into three superimposed cells, as is the case in *P. decipiens*. In the next older stage that was found, the embryo showed two large basal

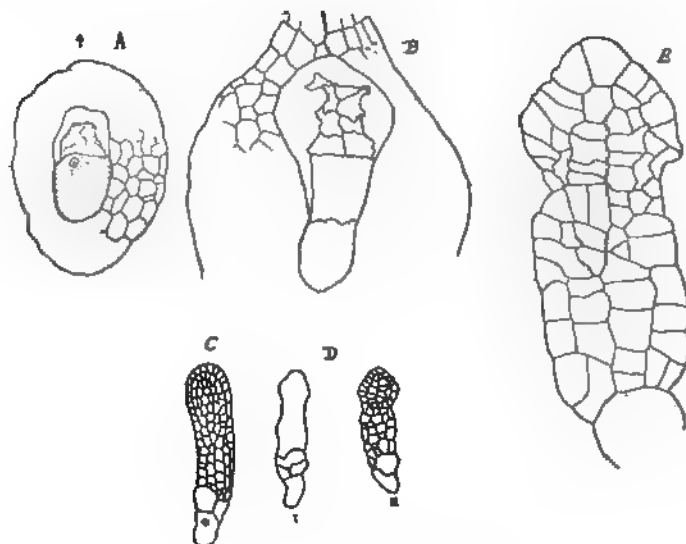


Fig. 16. *Pallavicinia Zollingeri*.

- A. Two-celled embryo, enclosed in calyptra, x 200.
- B. An older embryo.
- C, D. Older embryos, x about 50.
- E. Upper part of D, more highly magnified.

cells, forming a sort of suspensor, and a terminal portion, consisting of four tiers of cells, from which all of the sporogonium except the suspensor is derived (Fig. 16, *B*). It is probable that two of the three primary cells of the embryo contribute to the suspensor, while all the rest of the sporophyte—foot, seta and capsule—is derived from the terminal cell. This, however, was not positively demonstrated.

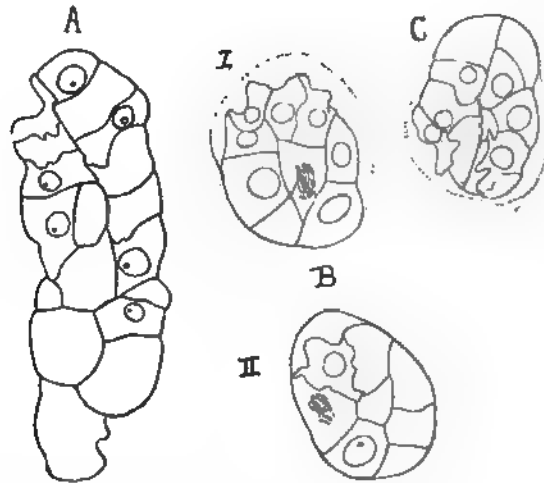


Fig. 17.

A. Longitudinal section of an embryo of *Pallavicinia radiculosa*, $\times 300$.
B, C. Cross-sections of embryos of about the same age, of *P. Levieri*. The embryo shown in *B* was cut somewhat obliquely.

The lower suspensor cell does not undergo any further division, but the upper one may divide two or three times, and there results an extremely conspicuous haustorial organ of the same character as that observed in various Jungermanniales, both acrogynous forms like *Jungermannia bicuspidata* and anacrogynous types like *Aneura*. (See Leitgeb [1], Clapp [1].)

Material was wanting for the next stages of development, but to judge from such stages as those shown in Fig. 16, *C-E*, the first division in the terminal cell of the embryo is vertical, and this is followed later by a series of transverse divisions. There is, however, a certain degree of irregularity in the divisions, as there is considerable variation in the arrangement of the cells in different embryos.

The upper part of the embryo rapidly elongates, and forms a nearly cylindrical body, the apex of which is slightly enlarged, and marks the

beginning of the capsule, or sporogenous region. It was not possible to determine the relation of the three regions of the young sporophyte, *i. e.*, capsule, seta, and foot, to the early divisions in the terminal cell of the embryo.

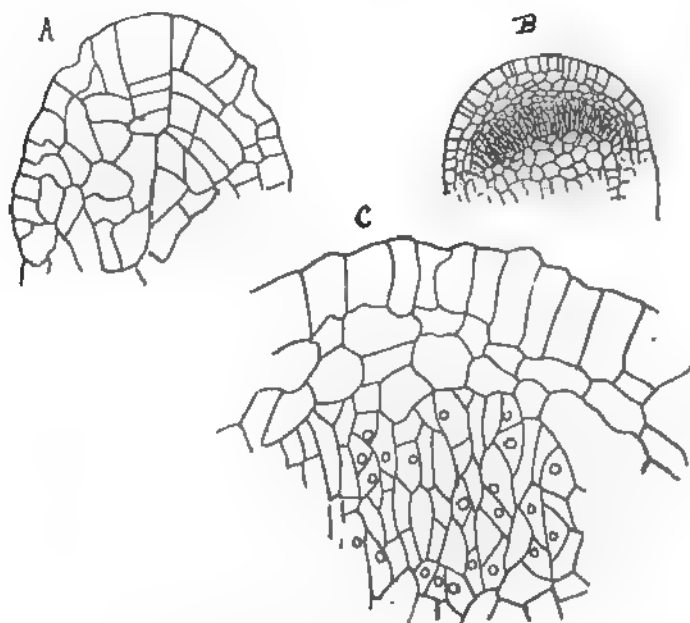


Fig. 18. *Pallavicinia Zollingeri*.

A. Upper part of a young sporophyte, $\times 300$.

B. Upper part of an older sporophyte, showing the sporogenous tissue; \times about 60.

C. Portion of B, more highly magnified.

In *P. decipiens* the young embryo is much shorter than in either *P. Zollingeri* or *P. radiculosa*, and more nearly resembles that of *Mörkia*, although more elongated than in the latter. Like *Mörkia*, also, the suspensor is much less conspicuous than in either *P. Zollingeri* or *P. radiculosa*.

The first periclinal walls in the terminal portion of the embryo probably determine the separation of the sporogenous tissue from the wall of the capsule (Fig. 16, E). The foot is much less clearly marked than in *Mörkia*, but is more evident in *P. Zollingeri* than it is in *P. radiculosa*; nor is the delimitation of the capsule and seta as definite as in either *P. decipiens* or *Mörkia*.

Of the three species examined, *P. Zollingeri* most nearly resembles

Mörkia in the character of the foot, which is somewhat bulbous, while in *P. radiculosa* the foot is pointed and merges more or less gradually into the seta. *P. Levieri* is somewhat intermediate between *P. Zollingeri* and *P. radiculosa* in the form of the foot.

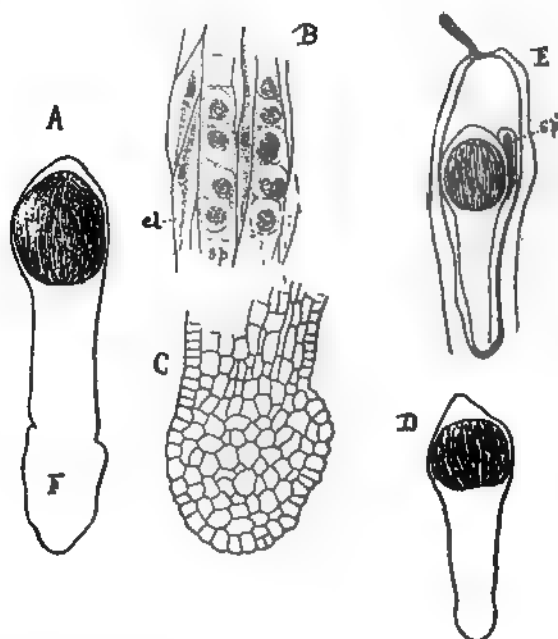


Fig. 19.

- A. Section of a young sporophyte of *P. Zollingeri*, in which the young spore mother-cells and elaters are differentiated; x 25.
 B. Part of the sporogenous region, showing spore-mother cells, *sp*, and young elaters, *el*.
 C. Foot of the sporophyte.
 D, E. Young sporophytes of *P. Levieri*, x 25. In E there was a second abortive sporophyte, *sp*², within the calyptra.

As the capsule develops the wall becomes clearly delimited from the sporogenous tissue within. The wall is composed of about three layers of cells throughout most of its extent. In *P. Zollingeri* (Fig. 18, C) the wall is three-layered also, or sometimes four-layered at the apex, the outer layer having the cells conspicuously larger than the two inner layers. In *P. radiculosa* (Fig. 21, A) the wall at the apex of the capsule is much thicker, and forms a conspicuous beak. *P. Levieri* is intermediate in this respect also between *P. Zollingeri* and *P. radiculosa*.

The sporogenous tissue in *P. Zollingeri* forms at first a somewhat

convex disk, which in section (Fig. 18, *B*) appears as a broad band of narrow cells in vertical rows. Some of these cease to divide, and later become much elongated, giving rise to the elaters; while the others, dividing by transverse walls into rows of isodiametric cells, become the mother cells of the spores. In *P. radiculosa* the sporogenous region, even at first, is more extensive than in *P. Zollingeri*.

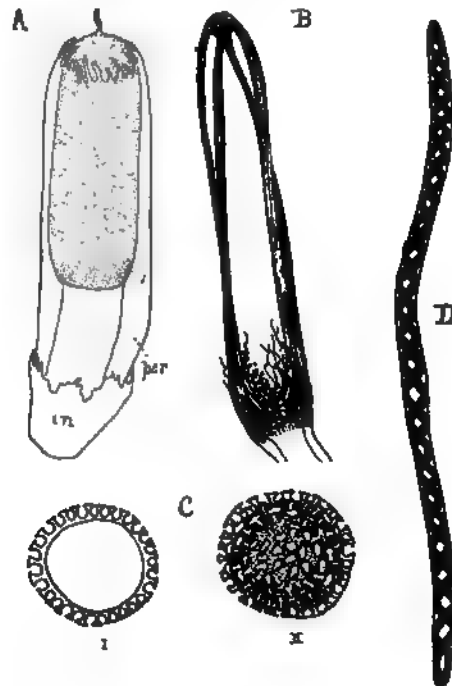


Fig. 20. *Pallavicinia Zollingeri*.

- A.* Young sporophyte still enclosed in the calyptra. *in*, involucre; *per*, perianth.
B. Open capsule, showing the four coherent valves.
C. I, section; II, surface view of ripe spores.
D. Elater.

By the time that the perianth is fully developed the sporophyte, closely invested by the calyptra, reaches about half-way to the top, and the separation of the sporogenous tissue into the spore mother-cells and elaters is plainly evident (Fig. 19, *A*, *B*). By the time that the sporophyte emerges from the perianth the spores have passed the final stage of division and are nearly mature. The material of *P. Zollingeri* did not furnish preparations showing the details of mitosis in the final stages

of spore-division. Farmer [1] has given a full description of the nuclear division in the spore mother-cells of *P. decipiens*, where he describes a quadripolar spindle. A similar condition has been noted in *Calycularia radiculosa* (Campbell [2]); but in *Pallavicinia radiculosa* (Fig. 21) and *P. Levieri*, which were the only species in which division-stages were encountered, there was no certain evidence of the formation of a quadripolar spindle. As usual in the Jungermanniales, the spore mother-cells are deeply four-lobed.

The full-grown sporophyte in *P. Zollingeri* is about 3.5 cm. in height,

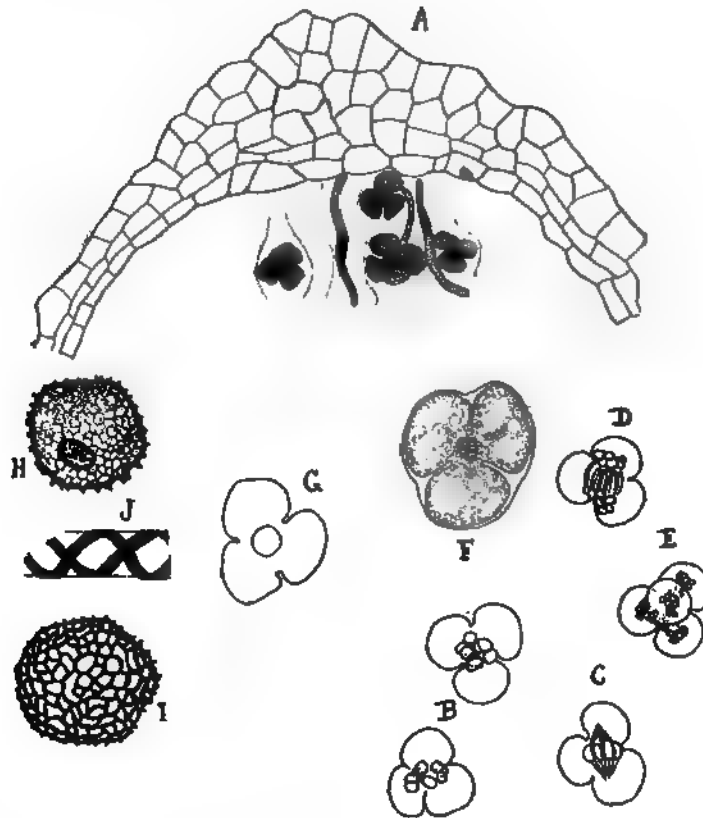


Fig. 21.

A. Upper part of the capsule of *Pallavicinia radiculosa*, showing first stages of division in the spore mother-cells.

B-E. Stages in the mitosis of the spore mother-cells in *P. radiculosa*, x 640.

F. Spore mother-cell of *P. Zollingeri*, x 640.

G. Spore mother-cell of *P. Levieri*, x 640.

H-J. Ripe spores and part of an elater of *P. radiculosa*.

the capsule, which is elongated oval in outline, being about 4 mm. in length by 1.5 mm. in breadth. The ripe capsule opens by four longitudinal slits, but the apical cap remains entire, so that the four valves between the slits remain together at the apex (Fig. 20, *B*). The ripe spores (Fig. 20, *C*) measure about 14μ in diameter, and the outer surface is covered with closely set blunt papillae, with somewhat expanded outer

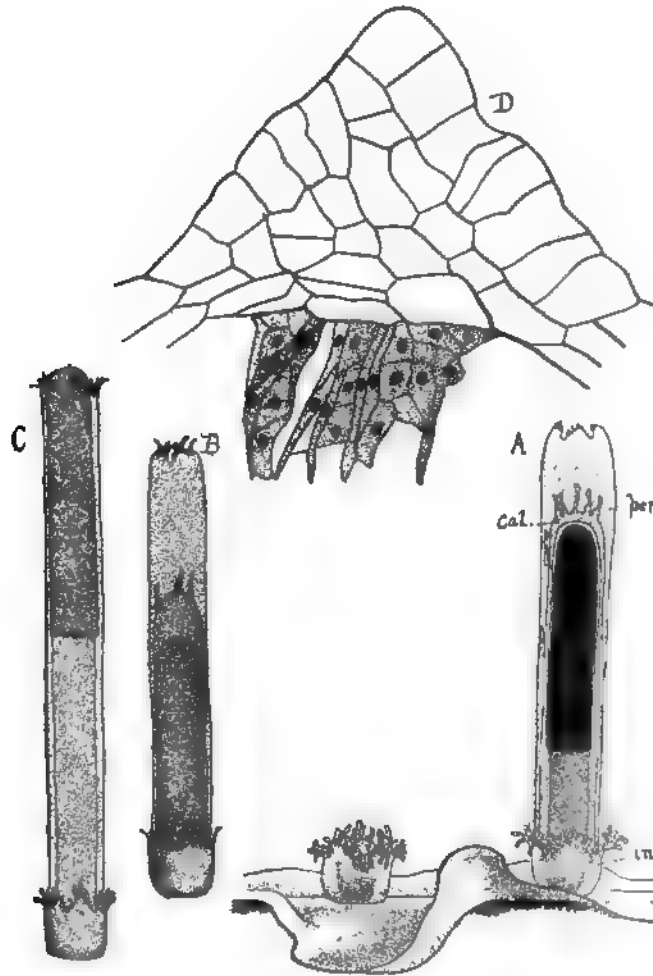


Fig. 22. *Pallavicinia Levieri*.

A-C. Young sporophytes. *A* and *B* still included within the calyptra; *C*, after breaking through.
D. Section of upper part of the capsule, highly magnified.

ends. The elaters have two spiral bands. The one figured, which measured 150μ in length, was somewhat shorter than the majority of them.

The mature sporophyte of *P. radiculosa* differs from that of *P. Zollingeri* in its shorter seta, which, according to Schiffner [1], is only 15-20 mm. in length. The capsule, however, is much longer than in *P. Zollingeri*, but almost perfectly cylindrical in form, scarcely exceeding in width the seta (Fig. 23, D). As already stated, also, the apex is conspicuously pointed. It opens in the same way, by four narrow valves, united at the apex. Except at the pointed apex, the wall of the capsule is composed of three layers of cells, of which the outer one has the cell-walls uniformly thickened, and dark colored. The markings on the ripe spores form a network of delicate ridges, much like those in *Fossombronia*, but quite different from those found in *Pallavicinia Zollingeri* (Fig. 21, I, J). The ripe spores are $12-15\mu$ in diameter, and the elaters often measure about 225μ in length.

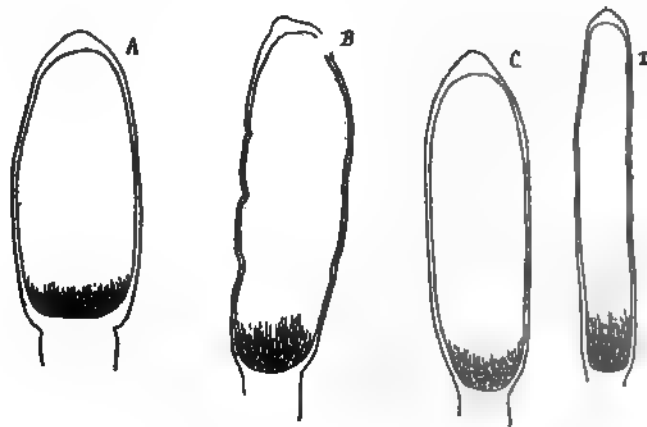


Fig. 23.

Sections of the capsules of *P. Zollingeri*, A; *P. Levieri*, B; *P. indica*, C; *P. radiculosa*, D. B and D are not fully grown. A-C, $\times 18$; D, $\times 10$.

Spore Division

Long before any sign of the final nuclear division in the spore-mother-cell can be seen the cell becomes deeply four-lobed, as in all *Jungermanniales*. The mother cell in *P. Zollingeri* (Fig. 21, L), is decidedly larger than in *P. radiculosa*, but its nucleus is smaller. Traces of what looked like the quadripolar spindle described by Farmer in *P.*

decipiens could be sometimes seen, and at the extremity of the rays of the spindle was a body which may have been a centrosphere. The material, however, was not very well stained, and the nature of these bodies was not perfectly clear. As no stages of mitosis were seen, it remains to be seen whether the chromosomes are four in number, as in *P. decipiens* (Farmer [1]), or eight, as in *P. radiculosa*.

In the latter species (Fig. 21, A, E), there are eight chromosomes,—thick, somewhat kidney-shaped bodies; and instead of the quadripolar spindle there is a conspicuous bipolar spindle of the usual form. The chromosomes divide and arrange themselves in two groups which move to the poles of the spindle, where without assuming the form of a resting nucleus they divide again, and a second bipolar spindle is formed. It was supposed that as the result of a reduction division there would be only four chromosomes in the young spores; but there is no question that eight are present in most cases, at least, and none were seen where the number was four. A similar condition was found by Farmer in *P. decipiens*, and it is also the case in *Calycularia radiculosa*. (See Campbell [2].)

It still remains to be seen where the reduction division occurs in these liverworts.

SUMMARY

1. The thallus in the two sections of the genus *Pallavicinia* differs in two respects. In the section *Eupallavicinia*, the wings are but one cell thick throughout, while in *Mittenia* the midrib merges gradually into the wings, as is the case in *Mörkia* and *Calycularia*. In *Mittenia* also, there is a marked difference between the prostrate, rhizome-like portion of the thallus and the upright fan-shaped green branches. In the latter also, the formation of adventitious branches from the rhizome is more common than in the species of *Eupallavicinia*.

2. The apical cell in the three species considered in this paper is a two-sided one, like that of *Aneura* or *Metzgeria*. These species differ in this respect from *P. decipiens*, where the apical cell is a three-sided prism (Farmer [1]). *Pallavicinia cylindrica* (Campbell [1]), may have a two-sided apical cell, but more commonly it appears oblong when seen in horizontal section. *P. (Blyttia) Lyellii*, according to Leitgeb [1], has a two-sided apical cell.

3. The hooked marginal teeth, found in *Mittenia*, are probably comparable to the leaf-like lobes of certain species of *Symphyogyna*, and like them bear a definite relation to the segments of the apical cell.

4. The position of the antheridia in the three species studied differs somewhat from the descriptions given by Schiffner [2]. In *P. (Mittenia) Zollingeri* they cover the whole surface of the midrib, as they do in *Mörkia*. In the related species, *P. decipiens*, they are said by Farmer [1] to form a row on each side of the midrib. In *P. Levieri* they occur in a row on each side of the midrib, and not on its upper side. In *P. radiculosa* the presence of sterile areas between the groups of antheridia seems to have been overlooked by previous students of this species.

5. The development of the antheridium is much alike in all the species, and conforms to the usual type found in the *Jungermanniales*.

6. The spermatogenesis corresponds to that found in other *Hepaticae*. A delicate membrane separates the pairs of spermatocytes, as in *Fossombronia* and *Calycularia*. It is possible that a "Nebenkörper," like that described for *Marchantia* (Ikeno [1]) and for *Fossombronia* (Humphrey [1]) may be present, but this was not certainly demonstrated. Woodburn [1] believes that such a body is not present in the spermatozoid. The number of chromosomes is probably eight.

7. Of the three species examined, *P. Zollingeri* has the smallest archegonial receptacle, and *P. radiculosa* the largest. The archegonium of *P. radiculosa* shows a limited apical growth due to the activity of the cover-cells.

8. The embryo of *Pallavicinia* agrees in many ways with that of other *Anacrogynae* that have been studied. It is perhaps most like that of *Aneura* in the development of a very large haustorial organ, or suspensor. In this respect the species under consideration seem to differ a good deal from *P. decipiens*, and from *Mörkia*. Of the three species, *P. Zollingeri* is nearest to *Mörkia* in the form of the capsule and the larger foot.

9. The species all agree in the structure of the capsule, which has a more or less conspicuous terminal beak or pad, which remains intact, so that the four valves of the open sporogonium remain attached to each other at the apex, and the capsule opens by four longitudinal slits. The beak is best developed in *P. radiculosa*, which has a much more elongated capsule than the other species. In its much shorter and relatively broader capsule, *P. Zollingeri* is more like *Mörkia* or *Calycularia*. *P. Zollingeri* is also like the latter in the tuberculate spores. In *P. radiculosa* and *P. Levieri* the spores are reticulately marked.

CONCLUSION

To judge from the foregoing study of *Pallavicinia*, *P. Zollingeri* is in some respects more like *Mörkia* than it is like the other species of *Pallavicinia* that were examined. This is true of the thallus, which has a broad, indefinite midrib, merging gradually into the wings, instead of the sharply defined midrib, and thin wings of *Eupallavicinia*. The conducting tissue, however, is well developed. The sporophyte, also, approaches in form that of *Mörkia*. Whether these differences, combined with the very different habit, are sufficient to warrant the retention of the generic name *Mittenia* for the dendroid species of *Pallavicinia*, may be questioned; but on the whole we are inclined to think this is justified and the members of the section *Eupallavicinia* might properly be transferred to *Blyttia*.

The inter-relationships of the Jungermanniales are very perplexing. Cavers [2] in his recent excellent summary of the subject points out that there is practically no constant point of difference between the two families Blyttiaceae and Aneuraceae (Schiffner's families Metzgerioideae and Leptothecae). Cavers places in the first family the genera *Blyttia* (*Pallavicinia*), *Mörkia*, *Symphyogyna* and *Makinoa*. In the latter are also included four genera, *Aneura*, *Metzgeria*, *Umbraculum* and *Podomitrium*. The two latter are often united into a single genus, *Hymenophyton*, but they are abundantly distinct and probably not closely related. *Umbraculum* is undoubtedly related to *Metzgeria*, but *Podomitrium*, except for the position of the reproductive organs, is hardly distinguishable from *Blyttia*, either in the structure of the thallus or that of the sporophyte. *P. malaccense*, for example, a species common in Western Borneo, is absolutely indistinguishable from a typical *Blyttia*, except for the position of the reproductive organs upon short ventral branches, instead of upon the ordinary shoots. We believe that *Podomitrium* should be placed in the Blyttiaceae, rather than in the Aneuraceae, supposing it seems best to retain these two families, and not unite them into a single one as Cavers suggests.

The production of the reproductive organs upon special branches, which appears to be the only constant difference between the Aneuraceae and Blyttiaceae, seems hardly of sufficient importance to warrant the establishment of two families, especially as, except for the small size of the fertile branches, they do not differ essentially from the ordinary shoots upon which the reproductive organs occur in the Blyttiaceae.

Among the genera about which there has been some controversy is Calycularia. *C. radiculosa*, an interesting species of the Malayan region, was recently studied (Campbell [2]), and it was demonstrated that it has much in common with Blyttia and Mörkia, with which it is doubtless related. Schiffner [3] even thinks it should be transferred to the genus Mörkia and entirely separated from the other members of the genus Calycularia.

While it is still too soon to propose a definitive classification of the thallose Jungermanniales, it may be said that so far as the two families Aneuraceae and Blyttiaceae are concerned, the differences between them are not of sufficient importance to warrant the establishment of two families.

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The Evolution of Brazil
compared with that of
Spanish and Anglo-Saxon America

MANOEL DE OLIVEIRA LIMA

Edited with Introduction and Notes

BY

PERCY ALVIN MARTIN

Assistant Professor of History
Leland Stanford Junior University

(Issued June, 1913)

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STANFORD UNIVERSITY
PRESS

TO
PRESIDENT JOHN CASPER BRANNER
DISTINGUISHED SCIENTIST, EMINENT SCHOLAR AND TRUE FRIEND OF BRAZIL
IN TOKEN OF
ADMIRATION AND AFFECTION

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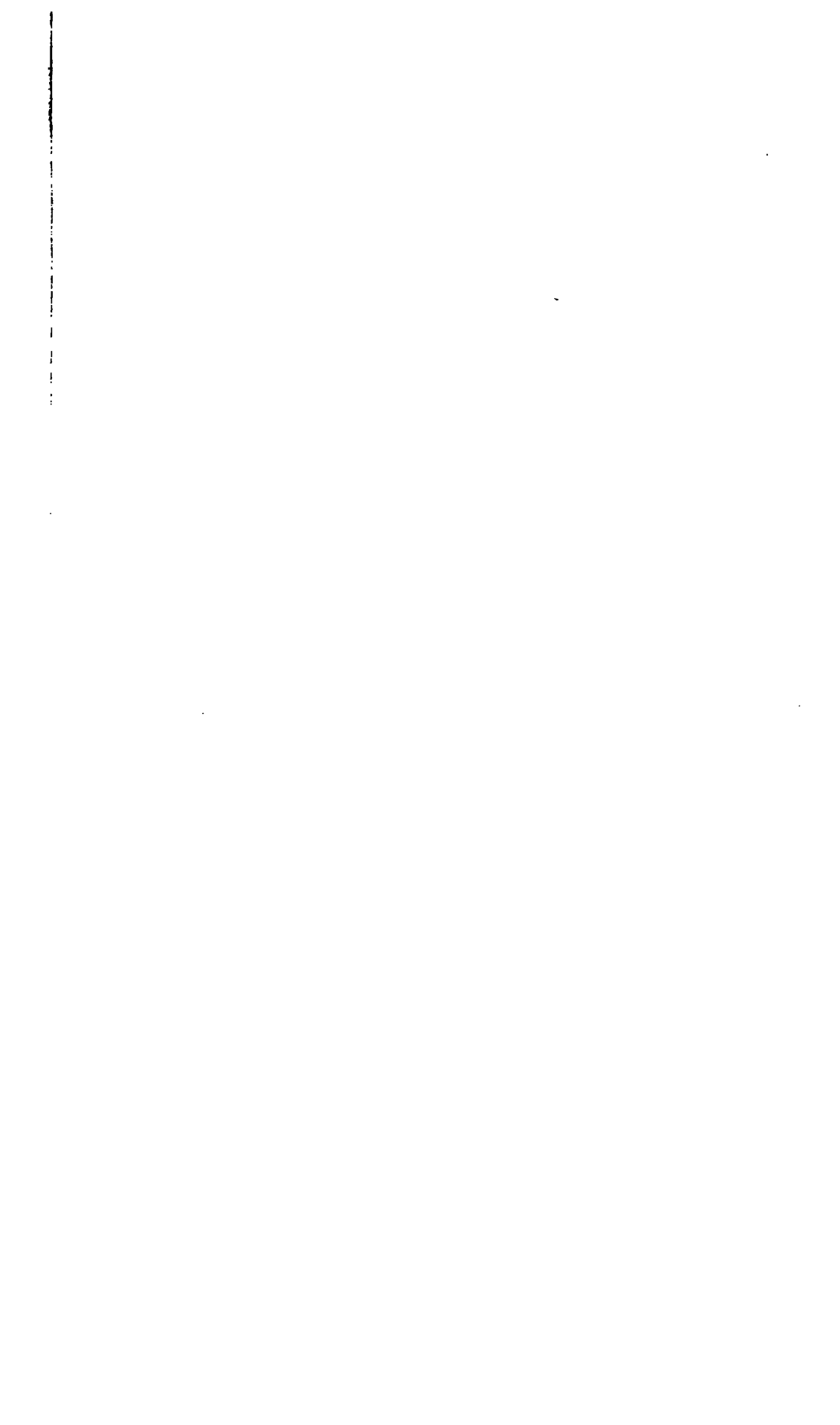
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INTRODUCTION

THE six lectures included in the present volume were delivered at Leland Stanford Junior University in the autumn of 1912 by Dr. OLIVEIRA LIMA under the auspices of the Department of History. To those familiar with the recent contributions of Latin America and, more especially, Brazil, in the field of historical scholarship the distinguished author of these lectures needs no introduction; as historian, essayist and diplomat, he has won a commanding place in the intellectual activities of contemporary Brazil; as a tireless investigator and productive scholar, he has done much to raise the study of South American History to a dignity and importance it had never previously enjoyed.

Manoel de Oliveira Lima was born in Pernambuco, Brazil, December 25, 1865. At the age of twenty he received the degree of Doctor of Philosophy and Letters at the University of Lisbon; two years later he embarked upon a diplomatic career of unusual fruitfulness. From 1892 to 1900 he was attaché to the Brazilian embassies at Berlin, Washington and London. In 1901 he was appointed minister to Japan; from 1902 to 1913 he represented Brazil in a similar capacity in Peru, Venezuela, Sweden and Belgium, and on various occasions he was intrusted with important foreign missions. In 1913 he withdrew from the diplomatic service to devote his entire time to the prosecution of his historical studies.

While acting as the representative of Brazil, Dr. Lima always interpreted his obligations with much latitude; his conception of the duties of a minister plenipotentiary differed widely from that of a conventional diplomatist. He refused to confine his talents and energies to the usual routine in which fixed conventions, meaningless etiquette and hampering restrictions play such a large part. He conceived it his mission to represent Brazil at her best or not at all. Whether in Tokyo or Brussels, in Caracas or Stockholm, he strove unceasingly to extend a wider and truer knowledge of Brazil; not only the Brazil of the present, with her astounding economic development, but also the Brazil of the past with her rich spiritual heritages, her fine traditions, her inspiring history and literature. In pursuance of this ambitious program he displayed an intellectual activity little short of prodigious. By means of lectures, articles in reviews and newspapers, books and pamphlets, he not only dispelled a

host of misconceptions and prejudices; but, what was of greater moment, aroused in wide circles an eager and intelligent interest in the historical evolution and cultural development of Latin America. A brief discussion of his most significant works will clearly reveal how well he deserves the tribute of "Intellectual Ambassador of Brazil" given him by the great Swedish author Björnson.

Quite appropriately Dr. Lima's first historical production dealt with his native city. "The Historical Development of Pernambuco"¹ is a scholarly and entertaining work in which the author has traced in broad outline the social and political development of one of the most interesting cities of South America. Especially noteworthy is the account of the Dutch occupation in the sixteenth century. With the sure and deft touch of a literary artist he has drawn the portrait of the real hero of this epic adventure, the genial and tolerant Count Maurice of Nassau-Siegen, sent out by the Dutch West India Company to govern their American possessions. With the same graphic word-painting he has sketched the subsequent events which have inseparably coupled Pernambuco with the national evolution of Brazil.

In 1906 appeared a work which at once gained the author a high place among contemporary literary critics. "Some Aspects of Colonial Brazilian Literature,"² is a brilliant analysis of the leading tendencies of Brazilian letters in the seventeenth and eighteenth centuries. While Dr. Lima has necessarily followed in the trail blazed by that dean of literary criticism, Silvio Romero, whose "History of Brazilian Literature" has already become a classic, Dr. Lima's book reveals much originality and abounds in suggestive and in some cases new points of view. In this respect the section devoted to the school of poetry which flourished in the Captaincy of Minas Geraes during the eighteenth century should be singled out for special mention.

Dr. Lima's most valuable contribution in the purely historical field is his recent work, "Dom John VI in Brazil."³ In this monograph all of the author's qualities as an historian appear at their best. Patient and exhaustive researches in the archives of London, Vienna, Paris and Rio de Janeiro have supplied a mass of original material out of which has been constructed a narrative of great interest and enduring value. As is well known, the period described was a critical and decisive one in the history of Brazil. The French invasion of Portugal in 1807-1808

¹ *Pernambuco, seu Desenvolvimento historico.* (Leipzig, 1895.)

² *Aspectos da Litteratura Colonial Brasileira.* (Leipzig, 1906.)

³ *Dom João VI no Brasil.* 2 vols. (Rio de Janeiro, 1909.)

had caused the members of the Braganza dynasty and the Portuguese Court to take refuge in Brazil, which thus became the seat of government of the Portuguese dominions until 1821. The history of this all-important period Dr. Lima has made peculiarly his own. These thirteen years witnessed the transformation of Brazil from a stagnant colony, a mere geographical expression, into a real political unit. At the same time the Brazilian people under the fostering care of King John and his able ministers attained a degree of national self-consciousness impossible under the old colonial régime. Hence the definite separation of the colony from the mother country in 1822—"even as a ripe fruit falls from the tree"—was one of the logical results of King John's long residence in Brazil. Dr. Lima's investigations in hitherto unused sources also led to a revision of judgment of many personages and events of the period; an instance of which is his successful rehabilitation of the character of Dom John VI. This sovereign, treated with contempt and contumely by the bulk of the Portuguese historians who have never forgiven him for deserting his native land, now appears in a new and deservedly more favorable light. The author makes it clear that John's rule in Brazil was as liberal and progressive as was desirable in a country in which all thorough-going reforms must of necessity be introduced gradually. And these same reforms, especially the opening of the chief Brazilian ports to the commerce of all friendly nations, not only redounded to the immediate benefit of the country, but what was infinitely more important, paved the way for ultimate independence.

Covering as it does this wide range of important topics and written according to the most exacting canons of historical criticism, this monograph will unquestionably take its place as a standard authority.

Upon one occasion or another almost every important phase of Brazilian History has been the object of Dr. Lima's attention. The fourth centenary of the famous voyage of Cabral, brought forth an article on the discovery of Brazil.⁴ Though small in compass, this study clears up a number of perplexing points and was at once recognized as a real contribution to a subject still enveloped in many obscurities. It may be noted in passing that this article was awarded the prize offered by the association under whose auspices the fourth centenary of the discovery of Brazil was celebrated. "The Recognition of the Empire, a Contribution to the Diplomatic History of Brazil,"⁵ is a successful attempt to

⁴ *Memoria sobre o descobrimento do Brasil*, premiada pela Associação do Quatro Centenario. (Rio de Janeiro, 1900.)

⁵ *O Reconhecimento do Imperio, Historia diplomatica do Brasil*. (Paris-Rio de Janeiro, 1901.)

explain the involved and tortuous diplomacy which led up to the recognition of the Empire of Brazil by Portugal and the great powers of Europe. "José Bonifacio and the Movement for Independence"⁶ is a sympathetic appreciation of the character and achievements of the "Patriarch of Independence," that scholar and statesman who proved a tower of strength to the young Dom Pedro I during the stormy years when Brazil was serving her apprenticeship in self-government. "Seven Years of Republic in Brazil,"⁷ an article originally published in the *Nouvelle Revue* is a remarkable synthesis of the leading events of the period 1889-1896. After analyzing the causes of the overthrow of the monarchy in 1889, the author points out that the disorders and confusion of the first years of the republic were the inevitable concomitants of the transition from an imperial to a democratic régime. Finally, mention should be made of the lectures recently given at the Sorbonne at Paris on the "Historical Formation of Brazilian Nationality."⁸ This work, embodying the entire history of Brazil, is probably the most satisfactory work on the subject to be found within the compass of a single volume. Especially felicitous is the author in the last two lectures in which he points out the salient characteristics of the reign of the last emperor of Brazil, Dom Pedro "the Magnanimous." It is doubtful if a truer or more convincing appreciation has ever been written of the monarch who for nearly half a century presided over the destiny of Brazil.

A work of particular relevancy at the present time is the little volume entitled "Pan-Americanism; Bolívar-Monroe-Roosevelt." This consists primarily of a series of studies or essays dealing with the relations of the United States to Latin America. Especially suggestive are the chapters dealing with the Drago Doctrine—here set forth with unusual clearness—the evolution of the Pan-American ideal, and the Monroe Doctrine. In regard to the latter topic Dr. Lima advances the thesis, now steadily gaining in the number of its adherents, that a new basis should be found for the Monroe Doctrine. He unhesitatingly admits its value to the whole American continent "as long as it did not undergo alteration—that is to say as long as, continuing to be an arm of protection, it did not become an arm of guardianship, indeed of dominion, by means of territorial annexations." Rightly or wrongly, however, certain Latin American countries have arrived at the conviction that the Doctrine is losing its earlier, altruistic meaning and is being used as a cloak

⁶ *José Bonifacio e o movimento da Independência.* (São Paulo, 1907.)

⁷ *Sept ans de République au Brésil.* (Paris, 1896.)

⁸ *Formation Historique de la Nationalité Brésilienne.* (Paris, 1911.)

⁹ *Pan-Americanismo, Bolívar-Monroe-Roosevelt.* (Paris-Rio de Janeiro, 1908.)

to mask the designs of their powerful neighbor to the north. If the Monroe Doctrine is to serve a beneficent purpose, if it is to promote concord rather than foment suspicions between the United States and Latin America, it must cease to be merely unilateral but must derive its sanction and effectiveness not from the United States alone but from all of America, or at least from those states whose stability and importance have won for them a definite place in the comity of nations.

The remaining works of Dr. Lima include two delightful books dealing with the author's impressions of the United States and Japan;¹⁰ a carefully arranged bibliography of the manuscripts on Brazilian History existing in the British Museum;¹¹ a series of lectures on the Portuguese Language and Brazilian Literature delivered in 1909 at the University of Louvain;¹² an incisive and illuminating appreciation of the famous Brazilian novelist Machado de Assis and his works;¹³ an historical drama, "The King's Secretary"—in which the eighteenth century Portuguese statesman Alexandre de Gusmão is the hero. Finally mention should be made of a work which might be called "Impressions of a Diplomat."¹⁴ This book, embodying the results of long experience and mature study, is really a highly constructive criticism of modern diplomacy with its too great emphasis on meaningless traditions and outgrown formulæ.

Dr. Lima is a member of the Brazilian Academy, the Academy of Lisbon, and the Geographical and Historical Institute of Rio de Janeiro, in addition to a large number of other learned societies both in Europe and America. He is a member of the editing committee of the recently organized "Société d'Histoire de l'Amérique latine" and has been entrusted with the preparation of Volume VIII of the monumental "History of Latin America" now being published by the Society. This volume, entitled "Brazil under the Imperial Régime,"¹⁵ will unquestionably become the standard history of the Brazilian Empire.

In this brief introduction a few words regarding the general scope and character of the present volume may not be out of place. Within

¹⁰ *No Japão, Impressões da terra e da gente.* (Rio de Janeiro, 1903.) *Nos Estados Unidos, Impressões políticas e sociaes.* (Leipzig, 1899.)

¹¹ *Relação dos Manuscritos do Museu Britannico de interesse para o Brasil.* (Rio de Janeiro, 1903.)

¹² *La langue portugaise, La littérature brésilienne, conférences faites à l'Université de Louvain.* (Anvers, 1909.)

¹³ *Machado de Assis et son oeuvre littéraire.* (Paris, 1909.)

¹⁴ *Cousas diplomaticas.* (Lisboa, 1908.)

¹⁵ *Le Brésil sous le régime imperial.*

the small compass of six lectures Dr. Lima has dealt with the social, political and even the intellectual evolution of Brazil, at the same time instituting comparisons with similar or parallel movements in Spanish America and in what for want of a better term may be called Anglo-Saxon America. Such an undertaking is attended with many difficulties. A merely chronological treatment would become almost inevitably an epitome of dates and proper names, a characteristic all too common to histories of Latin America. On the other hand, a series of generalizations covering the entire field would necessarily be too vague or abstract to be entirely satisfactory. Dr. Lima has frankly recognized that it would be impossible to cover adequately every phase of his subject and has therefore confined himself to a somewhat detailed discussion of a comparatively small number of topics which would presumably be of interest to an American University audience. It is obvious that this method has certain distinct advantages. It permits the lecturer, for instance, to enlarge on various problems whose solution has taxed the best energies of the inhabitants of both North and South America. Such a problem is the abolition of negro slavery. Dr. Lima is at pains to point out the different aspects which the institution of slavery assumed in Brazil, Spanish America, and the United States; he makes clear the circumstances under which abolition was accomplished; and finally explains why, in the case of Brazil, complete emancipation had to wait until nearly the end of the nineteenth century while in the case of Spanish America it synchronized with the separation of the colonies from the mother country.

Another subject capable of furnishing interesting parallels is the struggle for political independence in the various sections of the two Americas. Dr. Lima indicates certain grievances, economic, social and political, which the English, Spanish and Portuguese colonists harbored in common against their respective mother countries; grievances which in English and Spanish America culminated in the Wars of Independence. He compares at length the two great protagonists of this struggle in South America—Bolívar and San Martín; and to make the comparison still more effective he emphasizes the many points of resemblance between Bolívar and Napoleon, and San Martín and Washington. Finally, he carefully analyzes the factors which led the new nations of the two Americas to develop along divergent lines. The dignified and relatively peaceful evolution of Brazil is to be attributed in large part to the influence of an imported but thoroughly acclimated imperial dynasty, while the turbulence and anarchy so characteristic of the first decades of the Spanish American Republics find their historical explanation in certain

pernicious heritages from the colonial regime, the extinction of the best elements of the population in the long and devastating Wars of Independence, and lastly unrestrained political activity divorced from civic education. That the establishment of a number of European dynasties in Spanish America would have tended towards orderly development and political cohesion is suggested by the efforts made by both San Martín and Bolívar to found in America some sort of a liberal monarchy. This important topic—the attempted foundation of a European or creole dynasty in Spanish America—receives in the present volume its first adequate treatment in English.

To pursue further this analysis of the various topics so ably discussed by Dr. Lima would not only unduly expand the limits of this brief introduction but would also infringe upon the lectures themselves. Especially suggestive, however, is the author's treatment of such subjects as the civilization of Colonial Spanish America; the relation of the colonists to the indigenous races; the rôle of the clergy, especially the Jesuits, during the sixteenth and seventeenth centuries; the attempt to apply the principles of federalism to communities in which the civic consciousness is rudimentary; the formative influences in the intellectual evolution of Brazil and the Spanish American Republics; and finally the growth of idealism.

In conclusion it may be noted that the topical method followed by Dr. Lima is not without its disadvantages. It is evident that only those who are in possession of a general knowledge of the leading facts of Latin American History are able fully to profit from the lecturer's generalizations and deductions. Unfortunately, owing to the fact that among us Latin America is only beginning to receive an attention commensurate with its importance, such a background of general knowledge is but rarely found even among professional students of history. To meet this situation, as well as to increase the general usefulness of the lectures, the editor has ventured to append a number of explanatory notes and bibliographical references. With few exceptions the notes refer only to events or personages connected with Latin America and the explanations are in every case as brief as is consistent with clearness. The bibliographical references are in general confined to books in English or French; Portuguese and Spanish works are cited only when more available references are lacking.

P. A. MARTIN.

STANFORD UNIVERSITY, CAL.,
March, 1914.

LECTURE I.

The conquest of America.—Religious defence of the native element.—Indians and negroes.—The color problem and the discrimination against the colonists.—The institution of slavery and the conditions of political independence in the Spanish and Portuguese colonies, affecting diversely the abolition of slavery.—The first Spanish American civil war and the verdict of history in regard to it.—The social organization in the possessions of the New World.—The Indians and the clergy.—The part taken by the Jesuits.—The fusion of the races and the Neo-European product.—Causes of the separation: disregard of nationality and economic exploitation.—Monopolies and prohibitions.—Spiritual tutelage and emancipation.—Historical reasons for the Catholic intolerance.—Intellectual revival of the Iberian Peninsula during the Spanish reign of Charles III, and under the Portuguese dictatorship of the Marquis de Pombal.—Influence of this revival in the colonies.

THE conquest of Spanish and Portuguese America is a fairly familiar subject to the great number of those who, in the country of Prescott, cultivate the taste for reading. You have, moreover, the good fortune to count among your men of letters, historians who have given to their writings on certain foreign subjects a picturesque or romantic touch, or a documentary character, in each case superior and final. This fact deserves all the more to be noted inasmuch as it not only proves the contrary of the alleged exclusively utilitarian character of your civilization, but is moreover an evidence of your intellectuality. This is an aspect under which you are less known in our Latin-American countries, notwithstanding your university development, to which I owe my presence here today.

Thus it was by treating themes outside, so to speak, of your own evolution, and identifying themselves with these, that the name of Parkman has become inseparably associated with the history of the adventures of the French in Canada, that of Washington Irving with the Arabian life in the Vega of Andalusia and in the gardens of Granada, and that of John Lothrop Motley with the heroic struggle of the Dutch for religious freedom and the civil and political franchise. Under such circumstances it would be idle, not to say pretentious, to repeat here things you all know from the learned and charming works of your authors, and, as regards the particular subject I am about to present to you, from the works of such a distinguished historian as Prescott. I must add, however, that the study of such topics cannot but arouse a certain patri-

otic pride, in addition to the general human emotion called forth by such extraordinary events.

The conquest of America was, indeed, one of the decisive events both in the material and moral evolution of the world as well as in the history of mankind, and no educated person of the present day is ignorant of its social consequences; they form part of an ordinary education. The conquest of Mexico and Peru constitutes the most impressive scene of this great pageant and the most interesting feature of the achievements of the Castilians in the New World. These achievements, though attended by violence, were destined to be fruitful, since the barbarian civilizations—if we may thus designate the semi-civilizations destroyed by the European invader—represented the formless though least crude expression of the development attained by the American race, whether autochthon or immigrant. For it would be futile to deny that the Christian civilization of the Spaniards, though darkened by avarice and crime, represented a higher plane of human progress than that reached by the natives of either Mexico, Yucatan or Peru.

For this reason the great sacrifice consummated in those regions seems all the more cruel to us, the pathetic and touching figures of Guatemotzin [1] and Atahualpa [2] being special objects of our pity; but we must not forget that throughout the entire continent, from Hudson Bay to Tierra del Fuego, the struggle between the conquerors and the conquered was equally violent and bloody. Whether impelled by mere thirst for gold and silver, or urged on by less base motives, Europeans in every part of the New World employed the same system of oppression and destruction. The use of such methods seems to us perhaps greater among the Spanish than among the English and Portuguese, not because they really were so, but because our imagination demands that the methods of conquest should be in proportion to the results obtained. Yet, notwithstanding the great wealth of gold and diamonds existing in the Brazilian plateau of Minas Geraes [3] during the eighteenth century, no other metropolis having trans-Atlantic colonies could have boasted, as did the Spanish, that from the gold and silver mines of Mexico alone it had received during the colonial period, as the *quinto* or fifth due the royal treasury, more than ten thousand millions of dollars.

It is therefore not surprising that Spain should have wasted all her energies in the maintenance of an empire across the seas which was the real source of her wealth. Yet a closer scrutiny would show that this wealth was more apparent than real. During the course of the sixteenth and seventeenth centuries Spain had changed from a producing to an

intermediary nation, from a manufacturing to a trading nation. The causes of this momentous transformation are familiar to all students of Spanish History. They were on the one hand the depopulation of the country due to the expulsion of the Moors and Jews, colonial adventures, European wars, and the fires of the Inquisition; and on the other hand, the exhaustion, if not the complete extinction, of many of her long established industries through the elimination of the skilled Arab element. When these circumstances are taken into account, it need occasion no surprise that the greater part of the wealth obtained from America was diverted to other centers more given over to professional pursuits than to the glory of conquest.

This lust for conquest, however, made a peculiar appeal to the popular fancy of a people of Celtic characteristics, and to the fighting instincts of a nation possessing warlike traditions. If you will read the translation of that true and stirring novel called the "Narrative of the Cortez Expedition," by Bernal Diaz del Castillo [4], a translation written in flawless French by José Maria de Heredia [5] the Academician and talented author of *Les Trophées*—you will see the enthusiasm with which, during the first half of the sixteenth century, expeditions of this kind were organized in Spain, and you will be able to appreciate the appeal they made to the imagination of nobles and plebeians alike, and the animal fury with which all threw themselves into the storming and plundering of those unknown and fabulous treasures. Would it be possible to impress ideas of moderation and kindness upon a people in such an excited and frenzied state of mind, when the lowest motives and passions dominated and overpowered all the higher instincts?

If the Portuguese did not evince equal enthusiasm for Brazil, which was the portion destiny had allotted them in the distribution of the newly discovered lands, it was because the marvels of India were at that time engrossing all their attention. It is altogether probable that had the Spanish controlled the Hindustan peninsula, they would not have held so fast from the very beginning to the islands and mainland from which they began their difficult conquest of the New World. It is only in fable that the dog is seen to let go his prey and run after its shadow. The Hindu civilization, before it produced its deleterious effects, like the legendary shade of the *manchineel* tree [6] dazzled the invaders and awoke in them delightful dreams of lustful pleasures easily gratified.

History, in its description of deeds of bloodshed and violence, is, in its entirety, but a sad and monotonous story. It is not so very long ago that peace became for a great many a noble ideal: in the country of

Brutus and Cato, as in that of the Cid and the Duke of Alva, it would have been regarded as a sign of cowardice, a thing to be ashamed of. In Spanish and Portuguese America, however, there is seen from the very beginning a movement of compassion for and protection of the native element, tyrannized and reduced to slavery by the fury of the invaders. This fact is greatly to the credit of the respective mother countries, and does especial honor to their religious orders, for, despite the fact that they regarded the oppressed race as inferior, they did not judge it to be devoid of moral sense and without soul.

The name of Las Casas [7], whose work was confined chiefly to the Antilles, since they constituted the field of Spain's first adventures and territorial occupations, is one that is justly popular among you; but perhaps you may not know that the name of Anchieta [8], one of the Jesuits who devoted themselves heart and soul to the catechization of the Indians, was no less worthy of veneration. Both in the conversion of the Indians, and in their ministry to the spiritual needs of the colonists, intent on the gratification of their appetites, the priests of the Jesuit Order rendered such remarkable services in Brazil that it is no exaggeration to say that they were the principal agents of our national culture, particularly during the sixteenth and seventeenth centuries, that is, during the period in which the new society was adapting itself to its new surroundings.

You may say that the intervention of the clergy in behalf of the Indians was after all of little practical value. The government of the mother country was too far away to supervise the strict enforcement of the decrees which, from feelings of justice or mercy, had been extorted from its representatives.¹ Moreover, the local conditions of gross sensuality and greed, such as they first appear to us, were ill calculated to foster feelings of compassion. Spanish American writers even say that the caste known as the creole, that is the white American-born descendants of the conquerors and colonists who formed the local nobility, was distinguished by pride based chiefly on the purity of the white race.

This purity of race was not in a certain way as much prized in Portuguese America as in the Viceroyalty of Buenos Aires or even in the Viceroyalties of Lima, Bogotá and Mexico, where intermarriage with the Indian was far more common than with the negro. But this mixture of

¹ In speaking of the government of the mother country I refer especially to the power of the king, who was in all respects above the tribunals and councils which exercised jurisdiction over the colonies. Of these bodies, the former were traditional institutions of Portugal, while the latter, of Spanish origin, were established during the union of the Iberian kingdoms (1580-1640).

blood did not lessen the inhumanities practised, nor cause pity to blossom in the human heart. It is well known that no slaves were more unfortunate than those belonging to the colored slave-owners, where these were allowed to possess them, and that the overseers, whose cruelty to the slaves is proverbial, were chosen from among the freed slaves or those of mixed blood rather than from the European or immigrant element.

The numerical predominance of those of mixed Indian blood over those of mixed negro blood in the greater part of Spanish America, is the natural result of the conditions prevailing in those countries. In comparing these with the conditions existing in Brazil, it is necessary to keep in mind that the Indian population of that part of the American territory occupied by the Spaniards was denser and in part more amenable to discipline than that of the territory occupied by the Portuguese, and therefore offered greater facilities for the recruiting by force of colonial laborers. It must be further recognized that up to the time of the Treaty of Utrecht (1713), the African slave trade, which could have supplied such laborers, never ceased to be a monopoly of the government, like any other branch of the colonial trade, the respective licenses or concessions being sold at a very high price, a circumstance which enhanced the cost of negro labor, and at the same time stimulated the contraband trade.

It was, as you know, at the Congress of Utrecht that Spain was obliged to abandon her system of commercial monopoly, permitting France to trade with Peru and Chile by way of Cape Horn, and through the famous *Asiento* treaty ceding to England for thirty years the privilege of the African slave trade with the Spanish possessions, at the same time permitting her to establish factories at certain points in Spanish America.

I touched a few moments ago on the ever burning question of race feeling. It is a sentiment which among you has reached a degree of intensity which has never been equalled among the Americans of Iberian descent, although these too show in small degree a contempt for all persons of color. Indeed, not only has the genealogical tree of many families of distinction been jealously guarded from contact with all strains of inferior blood, but the whites of the colonies maintained and defended their titles and rights to certain posts and functions, which had been reserved to them by the laws of their respective mother countries.

Nor were reasons wanting for this racial antagonism, for already a son of the colony, or creole, was placed for this very reason in a position of marked inferiority in the public life of the time. The best posts were in fact, though not by law, unjustly reserved for the sons of the mother

country, as individual rewards for the collective effort of conquest. To be sure the colonists succeeded eventually in securing many of the judicial and government offices, but what would have become of the white creoles if the negroes and the mulattoes could have competed with them or had been placed on a parity in the distribution of the official posts and honors?

It is known that the Indians were not victims of the full application of this discrimination, some of them even having been admitted to the nobility; but the army, which is the symbol of effective dominion, never failed to be European in its command, if not in its rank and file, the mulattoes among the local militia forming its private regiments in which they could rise to the post of captain. A parallel for such a situation might be found at the present time in the conditions existing in Hindustan.

No person of mixed or Indian blood was allowed to matriculate in the University of San Marcos in Lima or enroll in the embryonic Faculty of Medicine of Los Reyes, that is to say, in the two institutions of higher learning in the opulent capital of Peru. The wealth and culture of colonial Lima may be gaged from the fact that in the eighteenth century no less than four thousand carriages were to be seen on its streets,² while this same capital was such a spirited intellectual center that the contests for the professorships in the University produced genuine disturbances, giving rise to factions which did not hesitate to come to blows.

If a *mestizo* of very light color succeeded in gaining entrance to these institutions of higher learning it was because of the difficulty in proving that he was not of pure blood. One of the viceroys, Count of Monclova [9], went so far as to decree that in such cases, once the mixed blood had been proved, the degree given should be cancelled. The order must have given rise to protests and appeals to the Supreme Council of the Indies, for royal decisions confirmed it in 1752, and later in 1758, banishing from the liberal professions all colonial subjects who were not direct descendants of Spaniards. These same decrees, however, excepted those who, in 1697, had been declared free from mixed blood, of noble birth and qualified for the exercise of high offices, that is to say, the Indian *caciques* [10] and their offspring.

The Church was more liberal than the State, for it not only admitted into its association all new converts, but occasionally raised them to the priesthood, without making any distinction between the subject Indians and their chiefs. It is significant, however, that the Indians took but little advantage of these favors. In the mother countries scruples of blood were less strong, for there the same conditions of competition did

² Burck: *Histoire des Colonies européennes dans l'Amérique*.

Wars of Independence in Spanish America, on the other hand, created a restlessness which had become proverbial, and traces of which still linger even in those countries which have definitely entered upon a period of peace and national progress.

Indeed, the Spanish-American War of Independence may be regarded, as the distinguished Venezuelan scholars Laureano Vellanilla-Lanz and Angel Cesar Rivas recently declared in public lectures given at Caracas, as the first of the internal political struggles of the disrupted colonial empire. The contest was of a civil, far more than of an international, character, in sharp contrast to your War of Independence, in which individual rights and self-government served as a pretext for a duel across the seas between England and France, which had for its object and reward, preeminence on the seas, together with colonial supremacy.

In a civil war, one of the belligerent parties either assumes the attributes of the sovereign state and identifies itself with it or is swallowed up in the vortex of the struggle. Spanish America gained its sovereignty, but from a certain point of view the struggle had pernicious effects which time alone will correct. It is here that the genesis of its revolutions is to be found, just as the Roman conquest is contained in embryo in the first fables of its history:—the killing of Remus by his brother Romulus, and the rape of the Sabines. The Colombian author, Carlos Holguin, accurately describes the situation when he says that “from that time it became an established principle with this people that war was as legitimate a means as any other for obtaining personal advantage, and one by which the desperate could make use of rich probabilities of their becoming masters of their fellow-citizens; the sacred right to insurrection constituted the foundation of the Republic and the fountain head of all other rights.”

You all know that the verdicts of history, or the manner of judging historical events, frequently undergo modification. The feelings and prejudices of the time, both individual and collective, naturally influence the manner of regarding events of the past, giving rise to different and even contradictory estimates at different periods, and even in the same period. To cite a striking instance, the French revolution which at first was generally regarded as a salvation, was afterwards declared to be an infamous and useless spilling of blood, only to be again deified, then villified, and finally considered on the whole as a redemption, although a nightmare and a disgrace in some of its features.

Historical criticism is passing through a somewhat similar evolu-

tion in the case of the Spanish American War of Independence. Its aspect as a struggle for political emancipation has been examined into by minds less given to enthusiasm and more diligent in the search for facts. These scholars, while not denying its heroic texture, have, nevertheless, found that in many of the engagements of this cruel war, the struggle was less between the Spanish forces and the revolutionary patriots, than between subjects of the same color, in behalf of interests and passions which were then disguised under the name of the "Prisoner King" [13], just as later the same interests and passions were veiled with other more abstract names.

Bolívar was, moreover, the first to recognize the fact. In one of his stirring proclamations, issued as he was abandoning in defeat the field of action to which he was later to return more energetic than ever, we read the following words addressed to his compatriots: "Your brothers and not the Spaniards have torn your breasts, spilled your blood, set fire to your homes and driven you from your country. Your cries should be turned against these blind slaves who seek to bind you to their own chains of slavery. A few successes on the part of our adversaries have ruined the edifice of our glory, the mass of the people being misled by religious fanaticism and seduced by anarchy."

You in the United States were much more fortunate, for those whom Laboulaye [14], in treating of this subject, calls domestic enemies, were rare. In Latin America, Chile alone, on account of the peculiar conditions of its settlement, which was effected by a hard-fought struggle between the colonists and the natives—the fearful Araucanians [15]—was accustomed to well defined parties and at the moment of separation showed uniformity in each of the contending factions. Thus it succeeded in preserving its social organization, which continued to strengthen itself in the separation of the classes and in the ascendancy of those of the upper stratum, forming a close oligarchy of whites. The democratic spirit is already opening a breach in this construction, which from its very nature is incapable of withstanding the destructive action of time. Such a peculiar social structure secured, however, to the country a century of assured material progress and an administrative stability superior to any other in Spanish America. Hence it may be said to represent an epoch of national development, just as the Gothic cathedrals represent the period of the most ardent Catholic faith.

In Venezuela, the war-school *par excellence* of this cycle of independence, there happened what is thus described by Sr. Vallanilla-Lanz, in periods as eloquent and sonorous as are to be found in all Spanish

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Historical criticism is passing through a somewhat similar evolu-

tion in the case of the Spanish American War of Independence. Its aspect as a struggle for political emancipation has been examined into by minds less given to enthusiasm and more diligent in the search for facts. These scholars, while not denying its heroic texture, have, nevertheless, found that in many of the engagements of this cruel war, the struggle was less between the Spanish forces and the revolutionary patriots, than between subjects of the same color, in behalf of interests and passions which were then disguised under the name of the "Prisoner King" [13], just as later the same interests and passions were veiled with other more abstract names.

Bolívar was, moreover, the first to recognize the fact. In one of his stirring proclamations, issued as he was abandoning in defeat the field of action to which he was later to return more energetic than ever, we read the following words addressed to his compatriots: "Your brothers and not the Spaniards have torn your breasts, spilled your blood, set fire to your homes and driven you from your country. Your cries should be turned against these blind slaves who seek to bind you to their own chains of slavery. A few successes on the part of our adversaries have ruined the edifice of our glory, the mass of the people being misled by religious fanaticism and seduced by anarchy."

You in the United States were much more fortunate, for those whom Laboulaye [14], in treating of this subject, calls domestic enemies, were rare. In Latin America, Chile alone, on account of the peculiar conditions of its settlement, which was effected by a hard-fought struggle between the colonists and the natives—the fearful Araucanians [15]—was accustomed to well defined parties and at the moment of separation showed uniformity in each of the contending factions. Thus it succeeded in preserving its social organization, which continued to strengthen itself in the separation of the classes and in the ascendancy of those of the upper stratum, forming a close oligarchy of whites. The democratic spirit is already opening a breach in this construction, which from its very nature is incapable of withstanding the destructive action of time. Such a peculiar social structure secured, however, to the country a century of assured material progress and an administrative stability superior to any other in Spanish America. Hence it may be said to represent an epoch of national development, just as the Gothic cathedrals represent the period of the most ardent Catholic faith.

In Venezuela, the war-school *par excellence* of this cycle of independence, there happened what is thus described by Sr. Vallanilla-Lanz, in periods as eloquent and sonorous as are to be found in all Spanish

American literature: "The flower of our society succumbed beneath the sword of barbarism, and of the great and noble class which produced Simon Bolivar, there remained, after Carabobo [16] (the battle which decided the fate of the colony), only a few living skeletons that wandered here and there over the Antilles, and other dead ones that marked this broad path of glory extending from Ávila to Potosí" [17]. The whites had indeed gradually disappeared amid the misfortunes of the campaign, and in many towns of the country only men of color were left to represent the triumphant democracy. The old colonial hierarchy had been swallowed up in the revolutionary maelstrom.

The colonial society may be said to have been regularly constituted at the time when the Indians were granted a civil status and the ransom of the slaves was first advocated. At the top were the high European officials subject to the Viceroy or Captain-General; immediately below were the colonial whites of noble birth, almost all of whom were planters; below these and competing with them were the merchants from the mother country who had come to enrich themselves in the transatlantic provinces; and finally, at the bottom, were the various strata of the common people, very much intermingled—the freemen of mixed blood, Indians apparently free, negro and mulatto slaves.

In the sum of transactions which this society in a stable state represented, was that of religion itself, for, thanks to the self-interest of its minister, religion conformed, practically at least, if not theoretically, to the methods so vigorously denounced in the early days of colonization. Antonio de Ulloa and Jorge Juan [18], the distinguished Spanish scientists who came to America in the wake of La Condamine [19] and the French Mission to measure the terrestrial degree at the equator, describe in their *Noticias Secretas de America* (Secret Notices of America), which were not published until after the independence of the Spanish possessions, how the regular curates exploited the Indians like any *encomendero*.

You are undoubtedly acquainted with this expression which is familiar in American history and which signifies the holder of a royal favor or grant, by which a certain extension of land was given to him, together with the Indians inhabiting it, on condition that the concessionaire or holder of the trust should protect, convert and instruct them. As this trust of souls was not undertaken without a certain amount of obligatory personal labor on the part of the other party, it is easy to calculate, if we recall the *milieu*, the abuses to which such a system would give rise, and although various attempts were made to eliminate the most objectionable

features, it was not finally abolished until the time of Charles III, a monarch whose reforms deserve to be known and admired [20].

The assertion of Ulloa and Juan needs no corroboration, for their trustworthiness is well known; however, it will not be amiss to give in this connection the opinion of the Frenchman Depons [21], who, in 1806, four years before the outbreak of the revolution, wrote a book on Venezuela which is still very highly esteemed. According to him the priests arrived from Spain with good intentions, but finding their associates given up to a life which conformed far more to the spirit of man than to the spirit of God, human frailty found it much easier to follow their example than to set a different one.

This witty remark explains why the laws drawn up in Spain and Portugal by the councils which superintended the colonial administration—the Council of the Indies in Spain, and the Council of the Colonies in Portugal—and ordered by the monarchs who were under the spiritual sway of the Jesuits, remained a dead letter on the other side of the ocean, especially when the first fever of evangelization had passed. As a result, the social elevation of the American Indians was a complete failure. The brilliant Venezuelan writer, Blanco Fombona [22], in recent lectures given at Madrid, observes, and rightly, that Juarez and Altamirano [24], both Mexicans, were the only men of eminence which the red race produced in the nineteenth century.

You will recall that in Juarez were incarnated the two principles which played an all important part in the historical evolution of the Mexican nation. The first was the spirit of national resistance to the attempt to establish a monarchy which had the grave defect of appearing as the defender of threatened political elements, and the still graver one of availing itself of foreign aid and personating itself in a foreign dynasty; the second, which was still more noteworthy, was the principle of secular or anti-clerical government, with which the institution of democracy was identified in that country.

I used the word Jesuit for the second time a few moments ago, and without any defamatory intention, in referring to the influence which this order so long enjoyed in the confessionals of the court and in the royal cabinets. The recollection may cause fear and trembling to the free-thinker of the type of the apothecary *Homais* [25], whom those of you who are familiar with French Literature will remember to have seen so admirably sketched by Gustave Flaubert in *Madame Bovary*; or to the *Carbonario* regicide [26] who, in the confines of western Europe, in the seat of our ancient and glorious metropolis, has endeavored to discredit

the republican régime. Such recollection, however, has no terrors for the impartial student of historical events, who knows that in North, as well as in South America, the memory of the Jesuit cannot fail to evoke feelings of emotion and gratitude.

I think it is unnecessary for me to emphasize, as far as you are concerned, the part which Father Marquette played in the exploration of your Great West, for his statue in the Capitol at Washington, louder than any words of mine, will speak for all time. Among us, that is, in Portuguese America, the Jesuits exerted a greater social influence than in Spanish America, where, owing to the circumstances under which the discovery was made—for you all know the effect on the destiny of Columbus, of his residence in the monastery of La Rabida—other more powerful religious orders preceded them and were better able to offset the preponderance of the famous Order of Jesus and compete successfully in the steeplechase for the conversion of the savage and the education of youth.

The monks in Spain and their dependencies did not permit the Jesuits, in spite of the untiring activity of the sons of St. Ignatius of Loyola, to enjoy more than a relative half-light. In Brazil, on the contrary, all the dramatic color of the sixteenth, seventeenth, and eighteenth centuries is furnished by the conflicts between the Jesuit missionaries and the *bandeirantes*, that is, the gold seekers and slave hunters. The missionaries were found to be in the interior, some trying to protect, others to reduce to slavery the Indian tribes which, after the first hostilities and disasters, had gradually deserted the coast.

These cruel and bloody conflicts might have inflamed race hatreds had it not been for the gradual disappearance of racial prejudice through the combined influence of intermarriage and miscegenation. The result of this intermingling of the races was a multitude of mulattoes who, through a process of evolution and selection, are being formed into a new variety of the white race in which the old European element predominates. Other important factors in this racial transformation have been the decrease in the aboriginal population, the cessation of negro importation, and the constant and considerable increase in European immigration.

At the recent Congress of Races, which was held at London in July, 1911,³ the Brazilian delegate, J. B. de Lacerda, a distinguished anthro-

³ This Congress accomplished the miracle of discussing peacefully and calmly one of the questions which most divides humanity today, with such broadmindedness that the United States was officially represented by a colored physician.

pologist and Director of the National Museum of Rio de Janeiro, and a white man, presented a paper on the Brazilian mulattoes in which he gave a series of conclusions, of which I shall mention two, which agree fully with what I have just pointed out to you. One is that the mulatto, the product of the union of the white with the negro, does not truly form a race, but an ethnical type, variable, transitory and having a tendency to return to one of the races, the original factors of this union. This natural tendency of the mulatto, writes the author, is seen most clearly in those transformations which populations of mixed blood in time undergo, when marriages obey no fixed social rules and mulattoes are allowed to unite freely with whites, begetting offspring which more nearly approaches the white than the black race.

His other conclusion is that the constant increase in the number of white immigrants, sexual selection, and the disappearance of race prejudice, are coöperating towards the extinction within a short time, of the mulattoes in Brazil, a country which will become in the future, and, according to all indications, in the not far distant future, a nursery of the white race and a center of Latin civilization [27].

The same reflection applies to the Spanish American world, having due regard to its proportions. If throughout Latin America, from a strictly social standpoint, the creole or American-born white, notwithstanding the continual process of racial fusion, considered himself entirely distinct and much superior to the colored population which was in part descended from him, the native-born Spaniard or Portuguese, in his turn, considered himself superior to the creole, whether he was—to use an adaptation of the French *déraciné*—an uprooted government employee, priest, or clerk.

This lack of consideration for the creole population of the colonies, even though of noble birth and of liberal education, came to be, moreover, one of the most powerful incentives of the independence movement, when the clock of time struck the inevitable hour for the political separation of the mother country from her possessions which had more or less reached adult age. Your example, however, is proof that this kind of puberty is not more precocious under tropical skies.

This inferior status of the creole in comparison with native born Spaniards or Portuguese was by no means the only grievance of the colonists. An equally important factor in the movement towards political emancipation was the discontent resulting from the economic exploitation by a system of exclusiveness and privilege characteristic of European colonial policy until comparatively recent times. Both causes were slow to develop. You ought all the more to understand this, since they were

essentially the same causes which gave rise to your glorious independence. There was the same resistance to paying taxes which they had not voted, and the same righteous indignation at not being included among those who could establish such taxes, when they possessed the same titles and qualifications. But in the Spanish and Portuguese colonies the abuses in this respect went still further. Thus to take an example at random, early in the eighteenth century, Venezuela was delivered into the hands of a company known as the Guipuzcoa Company [28]. As a result of the monarch's many favors which stopped short only at the cession of sovereignty, this company was able to govern Venezuela in all commercial matters at its discretion, and, as may be guessed, entirely in its own interest. Commercial companies organized after the manner of the Dutch trading companies of the seventeenth century, flourished in Brazil, especially in Para and Maranhão, whose unexplored resources it was proposed to develop by making such a seductive appeal to private capital.

It was with this idea in mind that the great Jesuit Antonio Vieira [29], one of the most distinguished writers of the Portuguese language and a man of subtle and keen mentality, proposed in the middle of the seventeenth century exemption from confiscation of all property belonging to these companies, whether merchandise or money. The primary object of this proposal was the attraction of Jewish capital, hitherto suspicious of the prevailing religious intolerance. Unfortunately this enlightened plan of Father Vieira was never carried out owing to the opposition of the Inquisition.

The companies, which were organized later in the middle of the eighteenth century by the Marquis of Pombal, of which the most important, the Pará-Maranhão Company [30], rendered valuable aid in the development and exploitation of a hitherto much neglected region, had beside their main object, which was economic, the political object of freeing the country from the financial tutelage of the English whom the Portuguese nation had been serving simply as intermediary, providing herself with their industrial products and sending thither her gold. But the processes followed by the new companies could not be made to vary from the usual ones, which consisted in selling European goods high and buying colonial products cheap.


It was this same method which was followed by the merchants of Seville, who made Terra Firma and Panamá centers for the distribution of their cargoes, and pocketed the profits from their exports to the West Indies, a traffic which was reserved exclusively to the subjects of Castile,

and which the industrious Catalans only began to enjoy legally in 1765 and 1775, or towards the end of the colonial period.

To summarize—and I am doing nothing more than pointing out a few facts among a hundred which might be cited in giving even a condensed statement of Spain's and Portugal's jealous commercial and industrial policy in the colonies,—a policy which I am not censuring, for it corresponds to the ideas which were dominant in this period and which are still powerful at the present time—factories were forbidden in Brazil, as well as in Spanish America, the production of various articles was stopped, the cultivation of the vine and the olive was made illegal in order to prevent the products of the colonies from entering into competition with the wine and oil of the mother country, and in Brazil even printing offices were prohibited. For instance a printing office, which was opened at Rio de Janeiro in the middle of the eighteenth century, was ordered closed as soon as the offence became known in Lisbon.

In this respect Spain was more liberal, for not only did the printing press accompany the government in its colonial establishment,—the first printing press of America having been established in Mexico in 1538, for Philadelphia did not have one until 1686,—but universities were created in Mexico and in Peru in the middle of the sixteenth century. In compensation for this relative, though important intellectual advantage, the Spanish American possessions, in their economic inter-relations, were subjected to even more stringent regulations than those which in Brazil constituted an obstacle to national unity. You will appreciate the situation to which I refer if you will recall the difficulties experienced by the founders of your constitution in putting an end to those trade barriers between the states of the Federation, which prevented the formation of a common consciousness necessary to their joint evolution.

I do not wish to exaggerate the liberality or rather liberalism of the Spanish Government. Its colonial universities seemed to the metropolis to be safeguarded against intellectual innovations, since their spiritual direction was confided to religious congregations interested in preserving mental immobility. If in these schools of higher learning the theological spirit ruled officially in all its obduracy, it was because the same spirit prevailed in the schools of the mother country. Neither would it be reasonable to expect that the colonies should so far have outstripped the mother country in the matter of positive progress as to oppose the deliberate darkness in which the shining light of the Renaissance had been extinguished in the Iberian Peninsula.



Besides, every society has the right to defend itself and is accustomed to exercise this right freely. Thus it is not surprising that Catholic Europe—and when we speak of Catholic Europe, we immediately and involuntarily think of the Iberian countries where the Catholic fervor was most pronounced—endeavored to guard its religious unity in the sixteenth century against two equally powerful enemies; one the infidel, the Mussulman, who, having been expelled from Spain at the close of the fifteenth century, had not only taken possession of Constantinople, the creation of the first Christian emperor of the East, but was also destined, at the end of the seventeenth century, in spite of Lepanto and the heroism of the Slavs in the Balkans, to advance triumphant until he should encamp beneath the walls of Vienna; the other was the Protestant dissenter, who, for the sake of his faith, was sowing discord throughout Europe, dragging entire countries to the side of the Reformation, and digging a wide trench which was being simultaneously filled with the blood of people of the same Christian faith, divided into partisans and enemies of Rome.

The spirit of intolerance which arose from this reaction against a threatening and imminent peril was the cause of the comparative intellectual isolation, which from that time forward, or at least for a certain period, characterized the people over whom the authority of the traditional Church was maintained intact. In conjunction with the mother country's system of government tutelage already mentioned this spirit of intolerance undoubtedly exerted a pernicious influence on the Spanish and Portuguese colonies in America.

If, indeed, the ecclesiastical censorship was active and persistent, the civil censorship was no less so. The two were allied in certain matters, as, for example, in the laws relating to printing, which prescribed that the consent of the Council of the Indies, at Madrid, was necessary for the publication, even in the colonies, of all works relating to the colonial possessions.⁴ This prohibition included both Spain and Spanish America and, together with the special censorship which applied to all printed matter not included under the head of books of devotion, works on the Indian languages, on colonial jurisprudence or panegyrics of courtiers, sufficiently explains the kind of literary production which was turned out by the local printing presses.

These works afforded ample vent, however, for the intellectual proclivities of the new world. A learned paper on this subject, by Don Vicente G. Quesada, the distinguished president of the Faculty of Philos-

⁴Law of September 21, 1560.

ophy and Letters of the University of Buenos Aires, was presented at the next to the last Congress of Americanists then meeting for the first time in Latin America [31]. It is true that nearly all volumes published in colonial Spanish America deserve to be sent to the literary graveyards to which the distinguished Lord Rosebery has sarcastically alluded, and yet, notwithstanding the fact that freedom of thought was unknown at that period—and indeed it is not a universal conquest even at the present time—the press exercised in Spanish America as elsewhere, its quickening influence.

Notwithstanding these prohibitions of the official censor—and among the prohibited books were included not only the *Encyclopédie*, which, it was feared, might revolutionize the minds of the people, but also books on colonial subjects printed in Spain and abroad that had not been previously reviewed by the Council of the Indies—the philosophic doctrines of the eighteenth century succeeded in penetrating into the forbidden territory by means of contraband books and there effecting the mental transformation which was to result in the independence of Latin America. It is enough for me to mention that, in 1794, a considerable time before the war between the mother country and her colonies had broken out, the *Rights of Man* was translated and clandestinely published at Bogotá [32].

Evidences of the depth and influence of this intellectual ferment were already being forced upon the mother country in no uncertain manner. There were already unmistakable warnings of the separation when the more daring of the colonists, seizing the propitious moment, would raise their voices in favor of divorce. Once more it was shown that it is not in vain that the world moves forward, and that contact with any point on the surface of a homogeneous body tends to spread to the entire mass, the better the conductor of the vibration, the better the transmission. The epoch of the reign of Charles III, which extended from 1759 to 1788, or up to the year preceding that of the taking of the Bastille, was also for the countries south of the Pyrenees a period of intellectual transformation, the general policy and events of which have not as yet been sufficiently studied, since the profound transformation through which Spain passed in the eighteenth century, under the influence of the general renewal of ideas in the cultivated world, and especially in Western Europe, extended to the colonies, although, owing to the great distance traversed, the impulse was naturally less strongly felt there.

How otherwise is to be explained the fact that in 1779, when the

mother country was in the enjoyment of full and undisputed supremacy, a man across the sea was found boldly attacking the methods of university instruction then in force? How is it possible to understand this personality, if the *milieu* was completely hostile to such ideas and there was such absolute ignorance that criticism passed for a case of mental teratology? I refer to Dr. Espejo, the author of the satire *O Novo Luciano* or *O Despertar dos Espiritos* (The New Lucian or The Awakening of Minds), an able surgeon, a man of encyclopaedic mind, and a sarcastic writer. His views were declared by the President of Quito to be seditious and odious and caused him to be rigorously dealt with by the public powers; but during his exile from Bogotá, the reformer established a school for the propagation of his ideas, and counted among his pupils the ardent Nariño [33], who was the owner of a library of revolutionary books, the translator of the *Rights of Man*, already referred to, and the center of the youthful hopes of his country, before he became the adventurous and persecuted missionary of liberal aspirations.

In the Spanish metropolis the revolution may be said to have started from the top, just as it did in the Portuguese metropolis, where the Marquis de Pombal, while strengthening the absolute system, gave free course to the new ideas in the economic, as well as in the educational domain, and in expelling the *Company of Jesus*, dealt a decisive blow to the power of the Church and to ecclesiastical prestige [34].

After the expulsion of the Jesuits, which, as you know, took place in Portugal, Spain, and France, the government of Charles III decreed that the confiscated property of this order, instead of passing to the royal domain, should be administered by a Junta, or council called *Junta de Temporalidades*, and employed in establishing schools and charitable institutions. The occasion was opportune, therefore, for substituting more modern methods—methods more in harmony with general conditions of western culture—for the old methods with which religious instruction in the Peninsula and the colonies had been identified.

Various, indeed, are the reports and opinions which government officials and commissioners published at this time, protesting against the general backwardness of the colonial mind, which, it must not be forgotten, reflected that of the mother country. In these reports they advocated the official reform of the course of studies, such as was already beginning to be done privately, as is testified by the number and worth of the emancipated minds whose work was so fruitful that its influence has reached down to the present time.

"The century was closing," writes Don Vicente Quesada, "with all the colonies feeling a certain instinctive restlessness, the precursor of the new life; ideas were taking a new flight, and the creoles, the children of the land, those who were really interested in the progress of the country, were beginning to secure the means necessary to provide for their needs; the former pupils were finding out that they no longer needed their tutors of the Peninsula, nor was it necessary to ask permission, either to express their thoughts, or to promote their well being."

So, Latin American independence was as logical a result as was your independence, and was produced by an identical state of mind, differing in degree but not in essence.

LECTURE II

European ideas brought over the sea by contraband books and native travelers.—Intercourse between mother country and colony.—The intellectual progress of the New World of Latin America before its political emancipation.—Comparison with the progress of the British possessions.—The race, environment, and period.—The race problem in America.—Traditional sympathy felt in Latin America for the inferior races.—State of the colonial culture in the Iberian and Anglo-Saxon sections.—Territorial conquest of Portuguese and Spaniards.—The political unit: the municipal chambers and *cabildos*.—Their conception and realization in the colonies and their significance in the mother countries of Europe.—The *Cabildo* of Montevideo and the part it took in the Revolution.—The municipal chambers of Brazil and Independence.—The political and social reconstruction of the new countries.—Education and charity.—Characteristics of colonial education.—The lack of political education in Latin America.—The general characteristics of particularism and the American conception of federalism.

WE mentioned the other day, as a symptom of conditions, the rise and growth in the plateau of Cundinamarca [1], of the principles underlying the French Revolution. Here, where a hundred years before there had wandered only Indians, unprotected from the cold and ignorant of all rights of the individual with respect to the community, there was now to be found a society of European character which was secretly but ardently reading the political and social writings brought from the other side of the ocean. These ideas of reform were also propagated by the sons of the colonies who, in appreciable though incomparably smaller number than is the case today, came to Europe to travel and soon became familiar with the dominant ideas and aspirations in the lands of culture, a term which in the present case signifies France and England.

Do not think that at any time there did not exist any personal intercourse between the colonial subjects of the Iberian Peninsula and these more progressive countries. We, too, had our Franklins of a certain kind. The Brazilian epic poet, Basilio da Gama [2], in the poem "C. Uruguay" has immortalized the resistance made by the natives of the Missions of Uruguay to the transfer of sovereignty over this territory from Spain to Portugal. Though born in the interior province of Minas Geraes, that land of gold and diamonds, he went to Rome and became a member of the arcadia. Alexandre de Gusmão [3], of Santos, in the

State of São Paulo, polished and refined at Paris a mind that was naturally Parisian, and hence his acuteness of vision to discern the absurdities in the court of Dom John V [4], of whom he was both private secretary as well as annalist, for his letters form the best criticism of his reign.

Moreover the intellectual men of Portugal in the eighteenth century seem to us to be in no small part Brazilians; that is to say, the number of Brazilians who, for the want of institutions of higher learning in their own land, came to Coimbra [5] for their education and remained to enrich letters, the sciences and, in short, the intellectual life of the metropolis, was by no means small. Brazil found compensation for this loss of her sons by giving to the life of Portugal, at least to that of the Court, some peculiar and foreign features which extended to the various classes of society.

I consider that Spain's colonists took a smaller part in the development of the mother country previous to the independence of the New World, than did those of Portugal, largely due to the fact that the Spanish colonies had their own universities, as well as to the geographical situation of the colonies in reference to their respective mother countries. It is obvious that communication between the Spanish ports of Seville and Cadiz on the one hand and the regions of the River Plate, of the Pacific and even of the Antilles on the other was much more difficult than the relatively short and easy voyage from Lisbon to Brazil, and vice versa, with stops at Madeira and the Azores and continent of Africa. The American continent, in the southern hemisphere and in its eastern coast, advances, so to speak, in search of the civilization of the Old World; the configuration of the Gulf of Mexico to be sure gives at first glance the contrary impression, but this geographical accident did not prevent the establishment of a close and constant administrative and economic connection, and did not make the number of colonists who visited Europe in any way inconsiderable.

Simon Bolívar was, as the son of a noble family, the playfellow at Aránjuez of the Prince of the Asturias, afterwards Ferdinand VII, that King of Spain whom he was to despoil of a large part of his colonial dominions; at Paris he associated with scientists such as Humboldt and Bonpland; he was present at the crowning of Napoleon at Milan as King of Italy, and in a burst of enthusiasm for classical history, went to take the oath on the Aventine that he would devote his life to the freeing of his continent.

Miranda [6] reveals himself to us as even more of a cosmopolitan. A military participant in your War of Independence, he appears later as

a freemason in England, as the guest of the great Catherine in Russia, as a superior officer under Dumouriez, the conqueror at the battles of Valmy and Jemmapes—events which ushered in the heroic period of the French revolutionary expansion in Europe. The masonic lodge established by Miranda in London for the purpose of securing the political emancipation of the continent which was still in bondage, extended its ramifications as far as Brazil, which hitherto had been widely separated from the Spanish American world. This lodge thus became an influential factor in the revolt of Pernambuco in 1817 [7], which even during the residence of Dom John VI in Brazil, seriously imperiled the Portuguese dominions in America.¹

Rapid then, as you see—for what are three centuries in universal history—had been the evolution of this new Latin American world, which, in the first half of the sixteenth century, could only offer the spectacle of iniquitous and deadly combats between the invaders and the natives, and which, now in the beginning of the nineteenth century, was already proclaiming its rights to self-government and autonomy, or was serving as a refuge for an entire Court of Europe, fleeing in terror from Napoleon, the seat of a colonial administration becoming naturally the capital of a vast monarchy [8].

It is true that only a limited group of men of culture were advocating those rights of freedom and self-government and that the great mass of the people of these countries do not have, even to-day, a satisfactory notion of any *social contract*. But does not the same thing happen in other countries? And even in those nations which march in the vanguard of civilization will the minority cease to have charge of the administration of public affairs? Comparatively speaking, it may even be said that the culture of the Latin American colonies at that time was superior, in certain respects, to that of the Anglo-American colonies, whose development today astonishes the world. On the other hand you gained much ground and outdistanced us all, after you had secured your independence: which certainly signifies that the race, the environment and the time had not equally prepared us for the conscientious direction of our destinies.

The race showed the effect of the physical and moral union. Sr. Lacerda, in the paper to which I have already referred, although recognizing the accidental superiority of some mulattoes and half-caste over the original factors or parents, points out that as a whole the legacy from the negro race was unfortunate. This legacy consists, in his opinion, of de-

¹ It will be recalled that King John VI resided in Brazil from 1808 to 1821.

fects of language, vices of blood, wrong conceptions of life and death, gross superstitions, fetishism, and a total lack of comprehension of every lofty sentiment of honor and of human dignity. The picture will appear darkly colored or not, according to each one's preferences or prejudices; in any case, he failed to mention that the moral influence of Europe was so powerful, even upon the product of the intermarriage, that the most astute politician of the last years of the Brazilian Empire was a mulatto, as was also the most delicate, the most subtle, in fine, the most Athenian writer recorded in the literary annals of the country. Of mixed blood also was Gonçalves Diaz, Brazil's greatest poet and one of the great American lyrists,—an artist of vivid imagination, of rich coloring, wonderful rhythm and profound sensibility, whose mission it was to recall the native traditions of the country and idealize the soul of its aboriginal population.

These superior minds, animating bodies in whose veins circulated the blood of the so-called inferior races, are the best testimony to the efficiency of crossing ideas. Moreover, if physical crossing leaves its impress, why should not the crossing of mental or moral qualities leave its effect also? And if this can be exercised in the direction of deterioration, why would it not be exercised also in the opposite direction of elevation? The instances I have cited are only a few among hundreds which may be seen by any one who will look for them in Latin America.

The local *milieu* was suffering, it is true, from great violence and tyranny: the conquerors were prodigal of both, as invaders of any kind are apt to be. On account of the inequality in education and, consequently, of the difference in intellectual viewpoint, the moment of emancipation was one of insufficient harmony between the elements destined to live together. Nevertheless in insisting upon the first point, it would be permitted to ask if instead of occupying ourselves with the past, that is, with trying to explain by means of history and tradition what has been the political and moral evolution of Latin America compared with Anglo-Saxon America, we should face the future, which of the policies followed is the wise one?

Will not the practical method which, during the colonial period and later during the period of independence, the sons of the Iberian Peninsula unconsciously took to solve the problem of the races, perchance facilitate its solution, or rather, will it not assure its solution in the future? Indeed, in your country, which is in so many ways the most progressive in the world, and the one in which the greatest progress has already been made toward the regulation of ethical problems, this racial question continues pressing, inciting to acts of violence which you, whom I may call

the intellectuals and the disciples of philosophers, are the first to deplore and condemn. Yet we of Latin America have already settled this same problem in the most satisfactory manner by fusion, a fusion in which the inferior elements will shortly disappear. Thus, when mulattoes and half castes shall no longer exist among us, when the negro or Indian blood shall have become diluted in European blood, which in times past and not far distant—it must not be forgotten—received its contingents of Berbers, Numidians, Tartars and other races, you will be threatened with preserving indefinitely within your confines irreducible populations, of diverse color and hostile sentiments.

I will not say that the general tone of your culture has not gained by this aloofness of the races, by the consequent integrity of the purity of the white race which has contributed so greatly to the present superiority of your civilization; but the situation created by antagonism, that is, by the presence of two or more races which do not fuse, will some day have to have its *dénouement*, and the *dénouement* brought about by love is always preferable to that which is the result of hate.

This rule of love followed by the Latin peoples of America does not date from to-day; it was always identical in its spirit, even when the times were less inclined to moral considerations. The *Leyes de Indias* [10] (Laws of the Indies) are, in the opinion of Don Vicente G. Quesada, a writer who does not hesitate to censure the faults of the Spanish colonial policy, much superior to the contemporary laws of other nations, revealing a constant lofty purpose on the part of the administration of the mother country in favor of her American colonies.

This does not mean, however, that these laws were superior to their epoch, "whose standards in their entirety they adopted, without suspecting perhaps that posterity would regard them as backward and pernicious." It means only that the more affectionate, or if you prefer the term, the more expansive nature of the southern race perfected that aspect of their legislation. The natives were, it is true, badly treated, violated, enslaved by the conquerors from the Iberian Peninsula, but, as I have already pointed out to you, by the side of these exploiters, from the first hour, were missionaries of the same nationality, contending with them for this new portion of humanity in order to elevate it by education and precept. With admirable zeal these missionaries set to work immediately to learn the American languages, and while acquiring them they even went so far, in Mexico, as to invent figures, after the manner of the local hieroglyphics, in order to inculcate thoroughly the rudiments of the Christian doctrine.

The foundation of the Seminary of San José, a primary school and an ecclesiastical professional institute for Indian children, was almost contemporaneous with the conquest of the Mexican territory from the Aztecs. The College of Santa Cruz de Tlatelolco furnished Indian teachers for the children of the Spaniards. This college was founded in 1536, by the virtuous bishop Zumárraga, whose splendid biography by García Icazbalceta you would greatly enjoy reading [11]. In 1553, there was established a home for foundlings for the unfortunate offspring of the temporary unions of Spanish soldiers with Indian women, the support of natural children being obligatory, however, whenever it was possible to establish the paternity. The Viceroy, Antonio de Mendoza [12], whose task it was to put into effect the Royal decree authorizing the establishment of this home, was also the founder of a retreat for girls of mixed blood, where they received some education before leaving the institution to marry.

In these very brief pedagogical and philanthropical references I confine myself to Mexico, your adjoining neighbor, and to the sixteenth century, the century of the discoveries and first explorations, in order not to extend a list which you might think interminable. But any one who will acquaint himself with the subject will conclude that, notwithstanding the many adverse influences, charity, the foundation *par excellence* of our Christian civilization, no less than the benefits of education, reached the Latin section of the New World earlier than it did the Anglo-Saxon section.

Neither can it be doubted that at the close of the colonial period in America our culture was, if not more solid, at least more brilliant than yours; our social life was more ostentatious, if not more civilized; our development was fuller and freer, if not more fruitful.

It will suffice to remind you, as regards Brazil, that in Minas Geraes, whose gold and diamonds were making Portugal the wonder of Europe, lyric poetry at the end of the eighteenth century acquired a natural feeling and an almost romantic expression of a personal character which make the poetry of the colonial period decidedly superior to the neo-classic conventionality of the mother country. It will be sufficient to tell you that the luxury of your Virginia could not compare with the splendor, somewhat ostentatious but suggestive, of the "Captaincy of Gold," and especially to remind you that the winning of the West, which in the United States was the feature of the nineteenth century, was in the case of Brazil begun by our pioneers in the sixteenth century, and was already concluded in the eighteenth century.

The great results obtained by our diplomacy in fixing Brazil's boundaries with the neighboring countries—a task sufficiently complicated, for Brazil borders on all the countries and colonies of South America, except Chile—are, with the exception of slight modifications due to geographical corrections rather than to political motives, nothing more than the confirmation of treaties concluded between Spain and Portugal in 1750 and 1777. These treaties, in their turn, represented the international recognition of Portugal's conquest of territory beyond the line traced in the fifteenth century by the Papal Bull and the Treaty of Tordesillas, which theoretically reconciled the Cortes of Madrid and Lisbon [13].

The desire for expansion, identical with that which led the Portuguese adventurers to cross the mountains of the eastern coast of the southern continent and to explore the rivers of the plateau to their central headwaters, led the Spanish adventurers to subjugate Mexico and to radiate from there to Florida, to New Mexico, California and Guatemala, that is, to the east, north and south; to spread themselves along the coasts of the Pacific, soon after this Southern Sea had been discovered by Nuñez de Balboa; to take possession of the immense backbone of South America, occupying the Andes wherever there were outcroppings of silver lodes and establishing settlements even at points which were without any attractions whatever; and finally to penetrate into the southeast as far as the pampas, in their quest for precious metals.

It was this same desire for colonial expansion of the two Iberian countries which led to the political and economic organization of the new nationalities for which the territorial conquest opened the way; the initial cell of this organization will be found in an old Roman municipal institution transplanted to America by the founders of the new Latin World.

The municipal chambers of Brazil and the *cabildos*, or municipal corporations, of Spanish America, were indeed the colonial nurseries of liberal ideas and rights; however much the shadow of royal despotism might obscure them, depriving them of the radiant light of liberty, they constituted the soil in which those rights germinated and where they finally burst into blossom. These corporations were popular in their character, and in many cases also in their composition, although the legislation of this period and particularly that of a later period greatly changed their nature. They had been granted by Spain and Portugal to their possessions in the sixteenth century when such organizations, as appears from the relative autonomy they enjoyed, still had a significance

and a reality in the Peninsula. And despite the obstacles which the throne placed in the way of their development they continued to progress through the force of their own momentum.

In Spain there had even been a time when, as one writer has expressed it, by the side of the landed feudalism there existed a kind of urban feudalism extending its influence over towns and villages and having as its basis the large number of communes, especially those created in the territory won from the Moors. In Portugal the *foraes* or charters of the municipal councils no longer contained their former privileges, which had been as great as the Spanish, and, like them, were given as a recompense for services rendered in the wars against the Mohammedans; but the inhabitants or citizens of these municipal towns continued to be the raw material for parliamentary representation, since it was they who furnished the taxes until the Crown absorbed all rights and privileges.

On the other side of the ocean, far from the supreme power, which in the pursuit of its ideal of its own preponderant authority was encroaching upon their rights, the municipal chambers instinctively resisted whenever possible, and sometimes even beyond their strength, the authority of the feudal lords, governors and viceroys which had been made despotic by law and which aimed to become even more tyrannical in practice. If perchance these chambers did not find sufficient authority for this opposition in the legislation which swathed them in the cradle, or the traditions of the Peninsula did not permit it—for in Europe the nobility and later the King constantly opposed the municipal corporations—they at times necessarily found in the colonies conditions of anarchy sufficient to justify their disregard of the text of the Constitution.

Castillo de Bobadilla [14], a Spanish publicist who preceded the writers on European public law—I say European because an American public law has been invented, though in what respect it differs from the other I could not say—goes so far as to find a precedent in republican and imperial Rome for the full meetings of the *vecindario*, that is, the popular assembly called "*cabildo abierto*" in which the ediles and electors were associated, thus corresponding in a certain sense to your primary meeting. The Roman precedent refers to the occasional admission to the Senate of knights (*equites*) and other supernumerary persons who had held the office of magistrate, or other citizens chosen by the censors for consultation and counsel in grave business matters.

The political and social importance of the typical Spanish municipal institution, or rather of the Neo-Latin institution, transplanted to the

New World, has been the subject of wide discussion, and the pendulum of opinion has swung and continues to swing between those who assert that in the colonial *cabildos*, which were created for the government and good administration of justice of the new American cities, there resided, in law and in fact, popular sovereignty, and those who do not see in them anything more than the "sad parody" of the Spanish councils which were overthrown by Charles V, after the famous revolt of the *Comuneros* [15].

The functions of these *cabildos* were, as you may imagine in view of the precision which characterized the Spanish bureaucracy, of which the *Rey papelista*,^{*} as Canovas del Castillo [16] called Philip II, was the most perfect representative, minutely set forth in the Laws of the Indies. They included, in addition to the services common to all edileships, administrative and judicial functions. In their judicial capacity the *cabildos* acted in certain cases on gifts of lands, decided lawsuits, and even constituted in civil matters up to a certain point, a court of second instance.

But just as in your constitutional system,—the so-called American presidential system which Brazil imported when she established the Republican form of Government and which other Latin American countries had adopted before her,—there was an executive magistrate with full powers alongside of the deliberative body; so, alongside or rather above the Roman Senate, there was the Emperor. Only, in the case of the *cabildos*, the *corregidor*, or chief civil magistrate who carried out their resolutions, was appointed by the king, and not elected by the people. This fundamental defect, which was common to the *cabildo*, would be enough to prevent it from being the practical school of democracy which some would like to regard it. To begin with, it lacked the essential, a representative basis, the people taking no part in it, either at the time of its establishment—for the first council was directly appointed by the Governor—or afterward, as the *regidores*, or administrative officers, elected their own successors. In time even this form of election was largely done away with, as the result of the aldermen ceding their staff of office for a pecuniary consideration, which was the source of many grave abuses [17].

Moreover, the revenues of these corporations were small, their taxing power was limited, and ordinarily they enjoyed but little prestige. This fact was due in part to the despotic tendencies of the governors and military commanders, encouraged, as a South American writer has pointed

^{*}This expression might perhaps be translated "The king submerged in state papers."

out, by the great distance from the metropolis and the corrupt Spanish administration. Nevertheless, it is a fact, as the historical critic, Dr. Jose Salgado [18] of the University of Montevideo, has indicated, that the colonists were permitted to take part in the communal deliberation by means of the open *cabildos*, already mentioned, which were sometimes convoked by the municipal corporations and at other times by spontaneous agreement of the citizens in order to decide matters of grave importance. In these open meetings the opinions of all were heard and their votes affected the deliberations taken.

It must not be forgotten that the municipal corporations of the colonies were concessions of the crown, granted with the object of fostering the colonization of the possessions which the navigators and discoverers had added to its dominion, and of promoting the constitutional organization of these distant sections of the metropolis, connected by a common sovereignty. In Spain the *fueros* or royal grants represented rather the recognition by the throne of a state of things brought about by the difficulties of the Christian reconquest; they were a sort of free contract of mutual respect and defense.

It is not surprising, therefore, that these Spanish municipal charters, the oldest recorded in the political history of Europe since the fall of the Roman Empire and the invasion of the barbarians, should guard so zealously the prerogatives of the burghers that they denied to the lords the right to build castles in the territory of the communes, and made the nobility and people equal before the civil law. The *fuero* of Palencia, for example, expressly stated that there could only be two palaces within the confines of the city, that of the king and that of the bishop, and that there was to be no distinction between the houses of the rich and of the poor.

It is well known that in those times, which were really more tolerant and liberal than those which followed, the Jews were allowed to establish themselves in the towns with the enjoyment of the ordinary rights and privileges, and the personal guarantees of the inhabitants of the councils were such that no citizen could be punished without having first been heard and condemned. Only a judicial sentence could authorize the confiscation of property, and the Cortes alone had the right to impose extraordinary taxes.

I do not wish, however, to compare the colonial *cabildos* with the old communes of Castile and Aragon of the time of the *fueros*, or with the free English communes which were later revived and flourished among you, but to call your attention to the tradition which they represented, although im-

perfectly, and to the importance which they eventually assumed. "Some of these," writes Dr. J. Salgado, "in spite of the laws of their organization and the attempts made by the Spanish authorities to absorb them, were gradually acquiring a real autonomy which later converted them into corporations openly revolutionary."

This was the case with the *Cabildo* of Montevideo, at the time of the occupation of Buenos Aires by the English expedition, in 1806. In order to enable the natives to reconquer the territory which had been taken from them, the *Cabildo* of Montevideo raised the governor to the post of supreme chief, giving him full authority, for they considered that the viceroy had rendered himself unworthy of the office through his cowardly desertion of the field of combat. By this act, the wishes of the people were not only placed above the laws and the decrees of the sovereign, but as the voluntary expression of the people were ruthlessly carried out. And when on the other side of the La Plata estuary the liberation of Argentina was proclaimed, the *Cabildo* of Buenos Aires, although constrained and coerced, served nevertheless the group of liberal-minded men as an instrument for effecting the revolution within the law.

The separation of Uruguay from Spain and its independent organization which followed close upon that of Argentina were effected by the same method, which we may call the revolutionary-legal method. General Mitre [19], soldier, writer and distinguished statesman, who deserved the title of the GRAND OLD MAN of Argentina, has justly pointed out that at Montevideo were enacted the two principal scenes of the democratic drama of Independence: the open *cabildo* and the establishment of a self-governing *junta*, or board, appointed by the people.

You see, therefore, that in the evolution of your government the fundamental principle is identical with ours and it must not be forgotten that even in monarchical Brazil the Empire sprang from a movement of concentration on the part of the provincial *juntas*, elected by popular vote, and that its proclamation and, later, its organization, had had to be ratified by the municipalities—a significant homage paid to popular sovereignty.

Under the circumstances it is not at all surprising that after an existence through three centuries of colonial expansion this old Latin and later neo-Iberian institution—despite the fact that in many cases it had been nurtured in a hothouse atmosphere—should play a rôle of great importance in that period of transition signalized by the Wars of Independence. In the general confusion caused by the political upheaval and the spirit of the century the *cabildos* assumed an authority which no other

institution was capable of wielding. Under the pretext of guarding the integrity and inviolability of the royal rights of their direct suzerain, the legitimate king of Spain, these corporations in fact took away the possessions of the crown, not only from the jurisdiction of the foreign king and usurper, but from all attempts at authority sent from Europe.

In Brazil, where the presence of the monarch prevented an exhibition of this pretense of colonial loyalty—whose sincerity, except perhaps at the outset, was open to serious question—the municipal chambers soon took a conspicuous part, and one in keeping with their character. This happened at the time of the conflict between the national regency left by Dom John VI, in the person of Dom Pedro the Prince Royal, who was afterwards proclaimed the first constitutional Emperor of Brazil, and the constituent Cortes of Lisbon, which sought to reduce the colonial kingdom which was already enjoying autonomy—for Portugal and Brazil had formed a united kingdom since 1816—to its former colonial condition of unequivocal servitude.

It was at this juncture, as I have just said, that the municipal chambers of Brazil, giving expression to the local resistance which was fortunately becoming national owing to the presence in the country of the throne, which acted as a center of attraction, sought to establish Dom Pedro permanently in his supreme post upon the ampler foundation of the provincial boards, giving him at first the title and honor of "perpetual defender of Brazil," and later the rank and dignity of sovereign. It was those corporations, therefore, that, displaying the greatest wisdom and without shedding any blood whatsoever, brought about the independence of the country. The municipal chamber of Rio de Janeiro, in particular, took the most active part in the establishment of the democratic empire that Brazil came to be and remained. In a certain sense it may be said that it initiated the movement [20].

The methods by which political emancipation was secured in Brazil differed from those employed in Spanish America chiefly in this: our independence was accomplished, so to speak, without war—for this term can hardly be applied to the few spasmodic attempts at resistance which were promptly crushed. And the bloodless character of the revolution was due primarily to the existence in Brazil of a legitimately and traditionally constituted government which served as a shield against revolutionary aspirations, and which enjoyed the respect and sympathy of the majority. Consequently it succeeded in overpowering its enemies, that is, those who, fascinated by the mirage of republicanism, opposed the monarchical régime in principle.

Any discussion of the political emancipation of Brazil must necessarily take into account the influence of the Regent, Dom Pedro [21], in whom all dreams of independence were led to concentrate. On account of his close connection with the throne of the metropolis, of whose reigning dynasty he was the most direct representative after the monarch, he not only commended himself to a people which had only just emerged—if we may employ the metaphor—from its chrysalis state, but thanks to the prestige which monarchical institutions still enjoyed in the mother country he succeeded in imposing himself, if not on the respect, at all events on other less patent sentiments of such reforming Cortes, as those of Lisbon, which declared themselves liberal without being revolutionary.

Turning to the other section of Latin America it cannot be denied that as the result of the longer sustained efforts and the greater violence with which the separation was effected, the Spanish ex-colonies were able to surpass the kingdom of Brazil in the mighty work of political and social reconstruction after independence had been won. Without any agreement among themselves, each one legislating in its own special interest, they changed in the same way the constitutional structure from its foundation, establishing not only freedom of industry, of trade, of colonization and of religion—all of which Brazil had obtained from the transplanted royalty as spontaneous grants, although they naturally were still subject to certain restrictions, due to prejudices of the time and surroundings—but also decreeing the general extinction of slavery, the abolishment of the Indian tribute and the suppression of the nobility.

I have already spoken of the painful birth of the idea of emancipation of the negro in the United States and Spanish America. It was a freedom won by blood, Brazil being the only country in which it was effected peacefully, by evolution, amid the rejoicings of the people, who felt that the institution of slavery was incompatible with their state of civilization. And it cannot be said that with the exception of this social institution, which morally did not last any longer among us than it did in fact among you—for the act of 1863 was the death-knell of slavery in the rest of America where this scourge existed—human progress was not equal in the two sections of Latin America.

The extinction of the Inquisition, that executioner of thought; the freedom of the press; the regulation of the monastical communities; the reduction of ecclesiastical privileges and consequent lessening of the religious power; the abolition of a few burdensome taxes; the reform of the civil, commercial and penal laws;—all of these conquests of the up-

rising in the Spanish colonies were, in Brazil, obtained by that same process of evolution which, before the separation, reflected the wave of constitutional reform sweeping over Portugal, and which, also, after the separation of the two kingdoms, was the result of the establishment of the representative régime.

This régime synchronized with political emancipation and its acclimatization earlier would not have been in harmony with the conditions then prevailing; but even so one must seek in the past of the Latin-American countries the tradition for all that occurred later in this connection. I mentioned a little while ago that the most attractive feature of the Spanish civilization, or rather of the Iberian civilization in the New World, was its sympathy for the natives, a sympathy which did not prevent abuses, acts of violence, persecutions and tyrannies; for there were all of these, and, unfortunately, not on a small scale. Yet this sympathy included a progressive and regenerative element which was the result of an instinctive feeling of the spiritual equality of that alien race, of a sense of the iniquity of treating them in any other way than with justice and benevolence, and of the recognition of the right of that inferior people to intellectual and moral education and to social elevation.

We have already seen that in Spanish America—and the same conditions held in Portuguese America—the schools and colleges for Indians and their descendants were contemporaneous with those established for the white children of the European colonists. This idea of establishing schools on the heels of the conquest was not as chimerical as might appear at first sight. Rather is one amazed at the number and importance of these institutions considering the period and the local conditions. The province of New Granada, now Colombia, which in her highlands was the least accessible of the Spanish possessions and had comparatively the smallest resources, counted in the seventeenth century twenty-three colleges, not including the primary schools which existed in nearly all the convents. It should be added that many of these primary schools as well as colleges were due to private initiative.

In Latin-American countries, education, as well as charity, has always been favored in a high degree by legacies and donations. In a city like that of Rio de Janeiro, for example, which has at the present time nearly a million inhabitants, the public charity service is scarcely done by the city administration at all, but almost entirely, and in a manner eminently satisfactory, by that rich old colonial institution, the *Misericórdia*, the first *Misericórdias* in Portugal having been established in the fifteenth century. This institution has hospitals for the sick, maternity and children's wards, provides for the burial of the dead, and guards cemeteries.

Naturally, the Government has always looked with favor upon this prosperous institution which was working totally in its interest. This was not the case, however, with the strictly ecclesiastical donations. These conduced to the wealth and consequent influence of the religious communities, which, by means of this material prestige, were able to enter into conflicts with the civil authorities. Certain disagreements between viceroys and bishops, as well as between bishops and Jesuits, remained famous in the colonial annals. The anecdotal history of the New World of Latin America is as interesting and as diverting as yours, if not more so; you can become acquainted with a part of it, and that the most curious, by reading the *Tradiciones del Peru*, by Ricardo Palma [22].

Education in the Iberian colonies, as I have already pointed out, was of an essentially religious character, for it was ecclesiastical in its origin, and even served as a pretext for the emulation of the various Catholic congregations, especially in the Spanish possessions, where the Jesuits, Dominicans, and Franciscans, contended for the educational monopoly. This rivalry, however, could only find vent within the prescribed limits; and, as Don Vicente Quesada [23] well says, since there was no place in the monotonous existence of the colony for political strifes, all the activities were concentrated in these academic contests. "The refined, scholarly and somewhat mandarinic culture resulting from these contests imparted to the Latin-American people, isolated as they were from the rest of the world, a characteristic polish as rhetoricians, formulists, controversialists, erudite scholars devoted to beauty of style, observers of outward forms and conventions, sophists, prone to attach too great importance to words, and especially much given to an affected ergotism."

In the same spirit as this admirable observation of the eminent Argentine just cited are the words of Juan and Ulloa [24] with regard to the effects of ecclesiastical education. These distinguished naval officers accompanied the French Scientific Mission on its expedition to South America, which had been made possible by the fact that the princes of the house of Bourbon were seated on the thrones of Spain and France. They observed that the educated youth of the colonies, who were truly gifted with remarkable cleverness and rare powers of quick assimilation, were notable for their knowledge of philosophy, of theology and even of jurisprudence, but that they lacked acquaintance with the political, historical and natural sciences.

The worst feature, however, of these Latin-American colonial societies, which were without horizons of their own—for they enjoyed

neither industrial nor commercial freedom—was their administrative incapacity; rather I should say their enforced inability to govern themselves, or, in other words, their need of political education. It was in these respects that you showed your great superiority over us, a superiority which enabled you to make rapid advancement after you had gained your independence. Among you, established tradition had only to continue under a new name and under more favorable conditions. The government was in fact already in the hands of the colonists and their descendants. We, on the other hand, had to adapt ourselves to the changed conditions, whereas among you the adaption had already been made.

The two civilizations, though, had one characteristic in common which tended to favor and really did favor our progress. This was Particularism, whose influence is seen in all the various aspects of the evolution of America, both Iberian and Anglo-Saxon America. Where one least expects to find it, it rises up, to explain, if not to justify the march of events, or as an artist would say, to fix the different planes in a sketch of culture. Let us take, for example, what was the greatest political and social problem of the New World, that is, slavery, a thing of the past and yet of the present, for its consequences have not yet ceased to be felt, its vestiges are far from having disappeared. The institution of slavery had its best guarantee in its diffusion: it was identified with our evolution and had become an institution common to all American colonies, passing naturally to the new countries of all nationalities. It is evident that with its continuance assured in the United States, there was no reason for it not to continue in the other countries of the continent where slavery had resisted the emancipation crises, namely Brazil, Cuba, Porto Rico and the Guianas. Of these countries, Brazil alone had achieved independence.

The "peculiar institution" received from your solid South tacit but effective moral support, and with us in Brazil, in the same way as among you, although not in the same degree, it derived encouragement from the autonomy of the states or provinces, as they were then called. In Brazil, this political spirit of particularism continued to exist even under a policy of centralization: it was favored moreover, by the great difference in the economic conditions of the provinces, which enabled some of them to free their small number of slaves, like Ceará and Amazonas, while others, like São Paulo and Pernambuco, clung to a state of things which they regarded as inseparable from their prosperity.

It was this centralization of power brought about by the monarchy

which enabled the abolition of slavery in Brazil to be effected without bloodshed or civil strife, for it may be said that a sectional line was being established in the country between the provinces which had slaves and those which no longer had them—although it did not offer the geometrical precision of the line drawn between your North and South—and that, there as here, the abolitionists began their active crusade in the midst of the same prejudices and rancors.

The correction, or rather, the result of Particularism is Federalism, a word which stands out large in the political lexicon of our double continent. You are preëminently the country of Federalism—a country of adoption like all those of the New World—but historical probity obliges me to state, and in so doing I may possibly wound your vanity (a vanity which would be entirely justified), that Brazilian Federalism was not, as one might at first suppose, through a false deduction based on coincidence, an application of the principle which had been so successful in the constitutional organization of the United States.

Federalism in Brazil has passed through many phases and vicissitudes. In 1822 it was necessarily and advantageously sacrificed to the national unity, but in 1834 it had returned with sufficient vitality to compel the acceptance of the Additional Act to the Imperial Constitution of 1825, an Act prepared under the Regency and favoring decentralization, and which in 1889 served as a model for the organization of the Republic. Yet this same federal principle has not only struck its roots as deep as a history which is but four centuries old will permit, but its origin is to be found in a past still more remote. For we must never forget that the history of Latin America is nothing more than that of the Iberian Peninsula transplanted to a new scene in which new human elements take part, and one must seek in the environment and traditions of Europe for the thread of its institutions and of its ideals.

Throughout America, however, we find that particularism is the political feature of the last century, that is, of the century immediately following independence, in striking contrast to Europe, where the policy of nationalities, with its necessary corollary of unification, has been the dominant one from Napoleon's time to Bismarck's. In South America, Bolívar was unable to bring together in a constitutional whole the different although homogeneous parts of the Empire which had been severed by historical events and conflicting aspirations. He was obliged to separate the *Audiencia* of Charcas and raise it to the dignity of a nation under his own name; he was unable to maintain the Presidency of Quito either as a part of independent Peru or of Great Colombia which he had

founded, and he died at the moment when Great Colombia again definitely separated into Venezuela and New Granada. In North America a gigantic struggle was opened between the Northern and Southern States for the purpose of severing the Union which so many battle-fields had cemented. While these events took place in North and South America, in Europe cruel and bloody wars were being waged for the purpose of reconstructing, or perhaps it would be more accurate to say, for the purpose of constructing the unity of Italy, Dante's cherished dream, and the unity of Germany, which the survival of German feudalism has prevented up to our time.

In the New World, truly, the constitutional ideal lent itself to various interpretations. I do not need to remind you here in the United States of Jefferson and the Republicans, of Calhoun and the Democrats, of Jefferson Davis and the Confederates. Today even the rights of the states are frequently invoked and defended, although it is no longer desired to convert their autonomy into independence. In Latin America, we see that the centrifugal movement was also the initial one, for all the genius of Bolívar could not avail to prevent its spread throughout the former colonies of Spain. It would have been necessary to have established a throne, as in Brazil, in order to maintain or create the splendid unity which circumstances of language, or religion, of customs and of sentiments favored, but which was opposed by circumstances, no less strong, of history, geography and political imagination.

The plan of Bolívar, like that of the American Federalists, had been to place the power of the compound above the autonomy of the parts, to sacrifice particularist interests to the interests of the whole which was superior to them. He therefore began by respecting in the territorial division of Spanish America, the principle of *uti possidetis* as a reasonable and logical foundation he could give to the new states, even so it did not become exempt from difficulties those which have appeared among almost all, in the New World.

boundary disputes between Chile and Argentina; the awards of the King of England and France; the dispute between Argentina and Paraguay, yes; the controversy between Bolivia and Brazil, acquired by Brazil, which was a great loss to Bolivia; the dispute between Venezuela and Colombia to the Queen Regent of Spain; and Peru, Colombia, and Ecuador, not to

Bolívar's ultimate conception, which rested on the military hegemony of Colombia—a state which he had called into being—included, as a necessary complement, the principle of arbitration for the regulation of differences between countries. In extolling and advocating this principle, he left the narrow sphere of patriotism—which was really an *esprit de clocher* in the divided Spanish America—in order to enter the higher sphere of international harmony.

Thus was formed what a Colombian writer has justly termed the international ideal of Bolívar, founded on tradition and a safe basis, therefore, for the codification of public law, which is being proposed by the governments for the people of this hemisphere. And this noble inclination would of itself be enough to doom to oblivion the faults of this great man:—his ambition for personal and autocratic rule; the pretorian spirit which he was largely responsible for infiltrating into the Spanish-American political organism; his imperialism disguised under the cloak of the unity of the race.

As it often happens, however, with social events, the results in this case went far beyond mere personal advantage, the work of the Liberator becoming truly rich in fruits, since his ardent desire for the preponderance of Colombia and his monocratic tendencies indirectly assured, before the Monroe Doctrine, the safety of the independence of the other Republics, through the extension of the military activities which broke the Spanish resistance beyond their original orbit.

We shall see, too, that in the mind of Bolívar the thought for self was never unaccompanied by general ideas or conceptions of public order. But we must first examine the evolution, in America, of the federative principle, which has been its chief political characteristic. As early as 1815, when the hero of Spanish America wandered, an exile, though not hopeless, over the Antilles, he saw in Panamá, whose Isthmus you are soon going to open to the world's commerce, the Corinth of the new Hellenic Confederation, the seat of a political and military league governed by an international assembly of plenipotentiaries, like the Achean League of Greece. The Macedonian influence, and later the Roman, against which that Confederation was warned, finds its modern counterpart in the influence of Europe, against whose influence it was Bolívar's idea to oppose the American political body "with an aspect of majesty and grandeur," as he said, "unparalleled among the ancient nations."

LECTURE III.

Origin of the federative principle.—Local government and administrative centralization in Portuguese and Spanish America: their different aspects.—Lack of uniformity in colonial legislation.—Viceroys and *Audiencias*.—Union through confederation in the three Americas.—Schemes of American royalties: Aranda, Pitt and Chateaubriand.—The monarchical idea in Latin America and its moral effect.—The first Monroe Doctrine.—Franco-British rivalries in the course of the eighteenth and nineteenth centuries.—Napoleon and the British interests in the New World.—Monarchical possibilities in Buenos Aires, Mexico, and Colombia.—Pitiable rôle of Ferdinand VII.—Iturbide, Bolívar, and San Martín.—European or creole dynasties.—Historical function of the Brazilian Empire.—The moderate minds in the colonies and liberal ideas in Spain.—Precedents for the idea of separation.—The traditional discontent, the genesis of the patriotic instinct, and the personal tie between the sovereign and his possessions in America.

WE have now to examine the precedents for federation, to discover the genesis of the idea of particularism, to search for the earliest traditions of local government, whether established under the influence of the metropolis, or due to the spontaneous action of the elements transplanted from Europe to a different environment.

Of the two Iberian kingdoms Portugal alone, with the design of a speedier occupation and a surer defense of the new dominion beyond the sea, restored, in Brazil, the old and already abolished feudal system. The South American colony was divided into feudal captaincies, and distributed, in the first half of the sixteenth century, among a few lords of the court and some high officials, to whom as donataries the king granted the most extensive powers, reserving only for himself the rights of suzerain; for instance, the supreme bestowal of justice in certain cases, and the collection of taxes.

Though the inefficiency of such a constitutional system was soon recognized and its anachronism was patent, the fundamental principle remained more or less operative during the colonial epoch; it did not even disappear after the establishment of Independence and continues to act as a political pendulum. It was true that the centralization attempted in the colony a short time after that essay of territorial partition, was so to speak illusory, although Spain strengthened it at the time of her union with Portugal.

During this union of the Iberian kingdoms the Spanish government always in favor of a policy of centralization, dared to deprive the local chiefs—the governors we may say, as in 1580 there were almost no *donatarios* left in Brazil of their judicial attributes. Centralization continued however to prove illusory, because the captain-generals were in fact independent of the governor-general, who was invested later on with the title of viceroy.

The German professor Handelsmann [1], who keeps his place as our best foreign historian—less dramatic and attractive than Southey [2], but never surpassed in interesting documentation and philosophic insight—admirably pointed out this characteristic of Brazilian evolution. Besides, the unifying work of Spain, followed out as it was in a more vigorous and effective way, was abruptly checked by the Dutch war which caused Portugal the temporary loss of the enormous territory from the São Francisco river up to the Amazon, one-half, perhaps, of the Brazils then explored. After the reestablishment of Portuguese authority and the recovery of the whole of her American colonies, the Lisbon government did not continue the centralizing policy pursued by Spain, either through lack of energy, or owing to doubt as to the efficacy of the Spanish system. Each captaincy remained an administrative unit, directly and individually subject to the orders of the metropolis, without any intervention from the royal representative, although his nominal power extended over the whole of the possessions of the New World. Each of these captaincies lived its own life, more or less as independent of its neighbors very much as did the English colonies of North America.¹

Portugal was so much more in a position to restore feudalism in America and then to create amongst her possessions an organic particularism, owing to the fact that she had rapidly attained a remarkable degree of political and social cohesion. In the mother country the provinces were mere administrative divisions, only differentiated by the picturesque costumes of the people. This result had immediately followed the conquest of the land over the Moors and the superposition of the King helped by the commons, over the nobility which in other countries had been so much opposed to the work of national unification.

In Spain the process of national growth was somewhat different. Here

¹ This point is admirably discussed by M. Charles de Lannoy, a professor at the University of Ghent, in p. 94 of the work written in collaboration with M. Herman Vander Linden entitled "*Histoire de l'Expansion coloniale des Peuples européens.*" (Bruxelles, 1907.) The first section of this work deals with the colonies of Portugal, the latter with those of Spain.

territorial integration took place but late²—on the eve, we may say, of her maritime expansion—and even so it proved incomplete and precarious, as such unification consisted chiefly in the union of two royal houses, the Castilian and the Aragonese. Each group of states maintained their peculiar institutions within their respective boundaries, and their inhabitants, as well, preserved marked differences of character and civilization—differences which may also be accounted for in part by the disparity of geographical conditions. This is why federalism in Spain today is so logical and legitimate an expression of public aspirations, and why Pi y Margall's book [3] became the Gospel of those who, in his country or elsewhere, think decentralization to be, especially when resting on traditions, the ideal form of government.

This typically Spanish ideal of government was not without influence on the organization of Brazil during the union of Spain and Portugal. For instance, the system of vice-royalties with captaincies gravitating about them found a counterpart in the division of Brazil into two or three great states in opposition to the more plainly centralizing tendency in the Lisbon government.³

This theoretical centralization in Brazil did not affect, as we have seen, the extreme particularism which in practice served as a counterpoise or a corrective, exactly as, in matters of legislation, the lack of laws and general rules forming a definite plan of administration, was supplied by a multitude of special decrees and royal orders, which together formed the colonial *corpus juris*. We find on the subject in the work of the Belgian scholars, Lannoy and Van der Linden, a very happy passage based on the writings of an exceedingly able Portuguese author of administrative law, Coelho da Rocha [4]. This passage finds, moreover, a remote but not less valuable confirmation through the testimony of a book contemporaneous with the most brilliant period of Portuguese colonial expansion. This book is called *The Practical Soldier*, and is the work of Diego do Conto, the historian [5]. The Belgian author's page is the following:

"The institutions in the Portuguese colonies were mostly copied from those of the metropolis, without being, however, adapted to their new destination. Administrative organization never proceeded according to a uniform plan: it was determined by the march of events. The duties of

² This fact is clearly brought out by H. Van der Linden, *op. cit.* p. 253 *et seq.*

³ It was only later on that Portugal saw fit to sever Para-Maranhão from Brazil proper, and in this case a number of special reasons were operative, *e. g.*, the vastness of the dominion conquered, the distance of these regions from the seat of the central authority, and finally the difficulties of navigation along the northern coast in a southern direction.

the many officials, their hierarchy and relations of service, were not stipulated by laws or general rules, but by a mass of special decrees, some appointing functionaries for the places, others dealing with the solution of a transitory difficulty or the suppression of some abuse. Often the adjustment of the different pieces of the administrative machinery worked of itself, as a result of habit or routine, sometimes in accordance with the designs of the central government, other times against them.

"If the Portuguese Kings since the reign of John II (1481-95) had their lawyers who gave to the laws of the Kingdom the interpretation most suitable to the interests of the crown, the colonial governors also had their own legal authorities, who furnished the texts with the meaning most favorable to the power of the chiefs who respectively employed them. It certainly is not an easy task to describe this administrative machinery, even when one knows the text of the laws and decrees which have organized it, which is not always the case; but it is still more difficult to explain their real working. It is frequently impossible to distinguish with certainty the laws that were applied from those which were not applied, or which were not applied as they ought to have been, and it is not without difficulty that we are enabled to define with precision the duties of the several authorities" [6].

These comments remind me of what was already said of us Ibero-Latin people, that we were in need of but one law—one which should put into execution all the existing ones. Such opinion appears naturally exaggerated in its gratuitous generalization, but if it be true that the application amongst us has not always corresponded to the intention; I mean, if often the ideal was not exactly followed in practice, we must bear in mind that the continuous effort towards a same direction finally reaches the end and accomplishes the *desideratum* as it was formulated. This is just the spectacle which Spanish-Portuguese America is affording, with her eyes turned towards a high and conspicuous mission in the history of mankind.

In such an earnest desire Latin America is helped by tradition, and you have already seen how much tradition is contained in our past. Confining ourselves, however, to the special subject of today's lecture, we must own that Spain was more coherent than Portugal in her constitutional orientation, for while she had her immense colonial empire divided into several administrative groups, separated and isolated, she allowed the tree of municipal freedom to grow and receive better care. On the contrary, in the Portuguese possessions, especially in Brazil, such liberties were occasionally assailed and destroyed.

This greater predilection for municipal freedom was but natural in

the classic land of the *fueros*, although, as we have seen, when the municipal institution—an atavic expression of the Roman moral inheritance, peculiar to Iberian political life in the period immediately following the Christian reconquest of the Peninsula—was transported to the New World, the kingdoms organized in the Old World were already undergoing the crisis of centralization which was to go on increasing up to the storm of the French Revolution.

As a result, nevertheless, of colonial conditions, chief among which was that of distance from the metropolis, a system of checks and balances had to be formed, the key of which was represented by the division of powers, as was the case long afterwards with your wise constitution. So, the Spanish viceroys, direct and not always scrupulous representatives of the royal power—I do not mean that some of those viceroys did not greatly distinguish themselves by their spirit of equity and progress—could see standing before their thrones, as a counterpoise to their authority, the royal *audiencias* [7]. These august bodies joined to their judicial attributions a political character, since they exercised a supervision over the behavior of the Executive. Hence these courts assumed in a certain way the rôle normally played by the legislative branch of the government in those societies possessing self-government. Or looked at from another standpoint the *audiencias* contained in germ the function of the supreme court as it exists in your own country.

The tree, once transplanted, spread its roots in the soil of the three Americas. I do not refer to North, Central, and South America, but to English, Spanish, and Portuguese America. Federative union was the capital work of your first statesmen. The Brazilian Empire also sketched it, after having, by an effort of centralization, contrary to historical traditions, saved the political unity of a country homogeneous through its race and its culture. It was finally a federative union that the city of Caracas proposed to the other Colombian towns when it proclaimed its municipal autonomy in 1810, a year before the declaration of the independence of the country.

Such union, converted into a great American confederation, was the solution pointed out since 1790 by the precursor Miranda and reiterated in 1809 by the *Cabildos* of Buenos Ayres and Caracas as the best way to oppose Napoleon's policy of universal absorption. You well know that the execution of such a policy in the Iberian Peninsula gave the signal for the Spanish-American rebellion and was the starting point of the movement for the organization of the neo-Spanish nationalities of the New World.

We find a last trace of the Spanish administrative system by groups in de Aranda's [8] famous plan, the farthest-reaching one that was ever conceived by an European statesman regarding transatlantic colonies. According to this plan, which anticipated and surpassed modern British conception on relations between metropolis and colonies, Cuba, Porto-Rico, and a portion of South America to be determined later, were to remain under the immediate rule of the Spanish crown as possessions enjoying a limited autonomy, something like Jamaica or Guiana of today. All of the remaining Spanish-American colonies were to be divided into three large kingdoms or dominions—New Spain (Mexico), Terraferma (New Granada), and Peru, which were to be granted to Spanish Infantes. The independence of these new kingdoms was to be conditioned only by the recognition of the Spanish King or Emperor, as suzerain, and the promise on the part of the Infantes to wed in the future only Spanish princesses.

The elder Pitt conceived a somewhat similar plan, when, in 1762, he was led to realize, on your refusal to join the British efforts in the war against France, that the hour for the emancipation of the English colonies in America was close at hand. In order to avoid a complete separation the great statesman conceived a sort of trans-Atlantic confederation. Canada, then conquered, would form the apanage of an English prince as an independent monarchy, while the remaining British possessions would be transformed into kingdoms, parts of a great Anglo-American league.

The motives which led Count de Aranda to advance his famous proposal of 1783 are well known. He desired to solve permanently the problem of the future relations between a metropolis which was losing in authority, and colonies which were gaining in strength, because he foresaw the puissance of your country, and desired to protect Spanish America from an absorption that seemed to him otherwise unavoidable. You will recall that this project was launched just at the conclusion of your Revolutionary War, in which France and Spain had been your allies against England. It is significant that on this occasion the minister of Charles III prophesied that Florida—just recovered to Spain from England—as well as New Spain or Mexico, would eventually be annexed by the United States.

The Spanish statesman was convinced that the United States would in the end dominate the great American empire at their door and he used to say that it would become impossible for Spain to avoid such an eventuality, as she could not think of opposing a powerful nation established on the same continent. We may say he guessed the Monroe Doctrine in its

second meaning at least, as in the first it did not include any alliance with Latin American possessions revolted against their metropolis. Thus, Jefferson, when living in France as minister, in 1787, dampened the juvenile enthusiasm of the Brazilian student Maia, who, speaking on behalf of some vague, faraway conspirators, insisted on some help from the United States in favor of the liberty of his fatherland; and Monroe, as Secretary of State, pointed out that the obligations of neutrality would not permit any interference in the struggle between Spain and her revolted colonies [9].

Such, however, was not the attitude of France. Napoleon not only evinced an active interest in the political emancipation of Spanish America but even decided to lend active support to the revolutionists. And it was only the fall of the Empire, the agony of which began precisely in 1812 with the failure of the Russian campaign, which prevented a French contingent from associating with the Colombian troops in the Wars of Independence. It would have been a curious sight, that of English and French soldiers fighting under the same flag in the New World—the part taken by the British Legion in the decisive Battle of Carabobo [10] is well known—when in Europe both countries were such bitter foes.

Like Napoleon's intervention in the Spanish American Wars of Independence, the American monarchies fancied by Aranda never passed beyond the stage of a mere project. And yet it cannot be gainsaid that the establishment of these trans-Atlantic kingdoms, with their promise of peace and stability, was sincerely desired by not a few of those who subsequently became partisans of complete independence. That the timely foundation of such monarchies would have spared the former colonies of Spain much disorder and anarchy may be inferred from a study of the political evolution of Portuguese America. Imperial Brazil was indeed a model of order with progress, as soon as the country adjusted itself to the political mould which the federalist democrats had accepted as a temporary resource, and tried to destroy immediately after the separation from the mother country—an enterprise in which they were in the end unsuccessful [11].

The indirect influence of the United States upon the growing nationalities of Latin America clearly appears at this point. If the only existing autonomous government in the New World has assumed a republican form, corresponding to the model preached by ethnologists and doctrinaires and by the exalted partisans of action, it was but natural to see its example followed by the other nations of the continent, once the colonial dependence became a thing of the past. Brazil was not then in a position to exert a contrary influence. Her civil pacification was far from being a reality, and the beginning of the Empire was but the transfer of the

seat of a monarchy from an European Kingdom to an American possession, in consequence of a number of very special circumstances. Yet the monarchical idea, reënforced and strengthened by its realization in Brazil—the best argument in favor of our Empire was the preservation intact of its imposing territorial extension—exerted a larger influence than is generally believed. A forerunner in a new and attractive field of historical investigation, the Venezuelan scholar Señor Carlos Villanueva, has recently published in Paris, on the subject of monarchical influence in America, a series of interesting books based on diplomatic papers found in European archives. The first two have respectively the titles of “Bolívar and San Martín” and “Ferdinand VII and the new States,” and they are both published under the general title of “Monarchy in America” [12].

The subject is a vast one even when we consider only the period of the Wars of Independence with its spontaneous attempts to establish royalties in the New World. Such a survey would of course exclude the well known episode of Maximilian's empire, an event which must be considered rather as the result of a foreign imposition, or at least an attempt to apply to conditions in America a purely European political expedient. We may, however, be sure that Napoleon III would never have conceived the design of the empire of 1864, if he had not listened to the entreaties of the conservative and clerical elements in Mexico, alarmed at the bloody and sordid anarchy which masqueraded under the name of a republic.

The influence which the monarchical idea exerted in Spanish America in the second decade of the nineteenth century is seen in the anomalous situation which had developed in what is now the Argentine Republic. The Buenos Aires revolutionists, even the members of the Tucuman Congress had already considered the monarchical solution at the best calculated to spare the country the indiscipline of passions and the horrors of civil war. If a Spanish Infante, if Doña Carlota Joaquina, Princess Regent living then in Rio de Janeiro, had appeared at the Rio de la Plata, an acclamation would have been the immediate consequence and a delirium of enthusiasm would have followed.

In Venezuela, the other Spanish-American focus of irradiation of the feeling of Independence, aristocratic ideas prevailed against the monarchical ones, not because the republican form of government constituted the definite aspiration of an ignorant population, or even the ideal of the majority of the assembly which represented colonial intellectuality, but—simply because there was nobody to whom the crown might be offered.⁴

⁴This idea is admirably brought out by Señor Villanueva in his work *La Monarquía en América*, t. II, primera parte, *passim*.

As candidates for Spanish American thrones, Spanish Infantes counted indeed in their behalf considerations of race, customs, religion and affinities. Their political opportunity, however, had vanished, and such happy and logical conclusion of the political crises opened for the Spanish New World had ceased to be possible since a Bonaparte had taken the place of the legitimate sovereign on the throne of the metropolis. Such usurpation had shaken to its foundations the prestige of the royal Castilian house in the eyes of populations whose dynastic loyalty partook very much of the nature of hothouse plants.

There were even to be found monarchical enthusiasts who later broached the chimerical project of placing this same Joseph Bonaparte, the ex-king of Spain, at the head of a Mexican monarchy similar to that of Iturbide, or even ruler over a kingdom embracing the Rio de la Plata region. Obviously nothing could come of such fantastic plans. To understand how they could ever have been entertained we must bear in mind that, after Napoleon's fall, Joseph Bonaparte had come to live in the United States as a private citizen under the name of Count de Survilliers. The above-mentioned Venezuelan historian refers to such projects, which were a result of Bonapartist dreams, having as sole basis of reality the evasion of Napoleon from St. Helena. All these plans were foredoomed to failure, since England was mistress of the seas, and had therefore their execution at her mercy. England was even opposed to any scheme looking to the foundation of national, I mean, traditional dynasties in the old Spanish colonies, and the restoration of the Bourbons did not alter her views on the matter, as she was more pleased to deal with republics watched by her cabinets and protected by her fleets, than with monarchies allied to royal houses in Europe. A single exception was made in the case of the House of Braganza, on account of the Anglo-Portuguese alliance, a true protectorate of the stronger nation over the weaker one.

The British government of the time had established on her own behalf a kind of Monroe doctrine in reference to Latin America. England was the necessary intermediary between Portugal and Brazil and she was also the political godmother of the new Spanish-American republics. Mention of the Monroe Doctrine is the more suitable on this occasion as it was particularly inspired in Washington at that time by Canning—the same Canning whose ambition was the tutorship of a New World, which he so proudly proclaimed to have called to an international existence in order to reestablish the balance of the Old. His best justification was that, after Napoleon's fall and Europe's pacification, Independent America

had found in London her most valuable if not her only support against the Holy Alliance, formed with reactionary designs and hostile to the British liberal feeling.

It is an undeniable historical truth that the emancipation of Latin America was performed without any positive help from the United States: platonic sympathy or love is not, unfortunately, enough in such cases, and I even venture to say, in any case. On the contrary, England's support assumed a material shape: it was not precisely represented by troops—although some distinguished British officers, as Admiral Cochrane [13] and General Miller [14], were to be found in the revolutionary ranks, where no American commander was ever seen—but consisted in diplomatic, financial, and even military and naval facilities.

I am very well aware that the United States was not then the great power of our present time, and that she had just been again at war with her old metropolis, and could not but hesitate to defy absolutist Europe by extending tangible protection to Spanish America before reaching a diplomatic understanding with England. On the other side, I do not mean to say that the proceedings of the British government were dictated by reasons of pure social altruism, of mere international philanthropy—where would you find such principles flourishing in political environments?—but the truth is that things happened that way.

Rivalry between France and England fills up many centuries of modern European history—not to speak of the history of the Middle Ages—and British devotion to Spanish American rebels corresponds in a certain sense to one more feature of that rivalry. The war of Spanish Succession, provoked by the ascension of Louis XVIII's grandson to the throne wherefrom the shadow of the last king of the Austrian dynasty had vanished, has already been justly called by historical writers an economic war, and it is certain that, when associating her arms to Archduke Charles' fortune, England specially aimed at preventing the economic, much more than the political union of those two nations, divided until then by the Pyrenees, and now destined to be both ruled by princes of the Bourbon house.

The French colonial empire had not yet experienced the enormous losses of India, Canada, and Louisiana, and for England it was of vital moment to oppose naval French supremacy both in the Atlantic and the Pacific and above all in the Mediterranean—a supremacy which would be, even under an exclusive form, the sure sequel of an intimate alliance with Spain. Soon after, however, at the peace of Utrecht which followed the war of the Spanish Succession, Spain had to renounce her ambition

to be any longer a maritime power in the Mediterranean, as she was compelled to surrender to England Gibraltar and Minorca. France, however, continued under a spell of colonial prosperity, for she did not have to abandon Canada or India before 1763, and Louisiana, ceded to Spain in 1762, was again in the possession of France from 1800 to 1804.

The names of Lafayette and Rochambeau will recall to you the support France gave to your Independence in revenge for the mutilations she suffered in her over-sea possessions through the loss of Canada and India. And it is a well known fact that Napoleon did not alienate to Jefferson a large part of your present West before trying, in Egypt and Syria, on the Mississippi and in the Caribbean Sea, to rebuild the former French colonial empire, causing the hated British supremacy to bleed to death on the faraway oceans as well as on the continent of Europe. Trafalgar destroyed such hopes, but the British government stood nevertheless on her guard, and did not conceal her fear of the revival of her colonial rival, when a Napoleon took in Madrid, the place of the Bourbons.

So the support of England, indirect, if you wish, but nevertheless important, brought in such emergency to Spanish America, had a double aspect.⁵ In so far as it was dictated by a fear of France this support was political in character, as it was designed to check the plans of Napoleon and anticipate possible French expansion in the New World. As regards Spain, the aid accorded the struggling colonies was due primarily to economic motives, or it was the desire of England to convert into legal traffic with the new states the smuggling which for a long time had taken place to the detriment of the old metropolis. It is significant that commerce even used to increase after each of the wars that both nations sustained during the eighteenth century and through which the power of the Spanish imperial mantle was gradually wearing out.

We must acknowledge that you did not have in the United States the same reasons as did England and France for granting us your help. Let us hasten to add that the new American States, on their part, did not neglect the economic opportunities suddenly opened to them as a result of the new relations with Europe created by the Wars of Independence. The distinguished Colombian author Perez Triana says in the last volume of the *Cambridge Modern History* that Latin America's official debt to Europe—I mean the loans guaranteed by the governments of the respective countries, amounts to five hundred millions sterling, and that the

⁵ Portuguese America need not be considered in this connection, as Portugal was at this time under the complete control of England.

Alliance as a supreme measure of dynastic and public salvation, identifying both in a case where one was in no wise synonymous with the other. So unhappy an attitude gave to French royalty the opportunity of winning for the Duke de Angoulême's expedition the laurels of Trocadero [25], and to Chateaubriand the pretext for obtaining at Verona the right of intervention and for restoring by himself the plan of the Spanish American monarchies. The king of Spain was consequently the principal obstacle to the realization of those projects of a general importance for the New World, since even Bolívar himself, at a given moment, was ready to accept monarchy as the best solution for the crisis. It is to be noted however that the *Libertador* remained inflexible in his antagonism to Spanish princes and in his insistence that if thrones were to be erected in Spanish America they should be occupied only by natives.

Bolívar also evinced a lasting abhorrence to all these monarchs of a local color or taste, especially after the miserable Napoleonic parody given by Mexico through her general Iturbide, who with the help of clergy, nobility and people, imitated the 18th Brumaire and even improved on it—as it was the Mexican Congress that under the gun's pressure went so far as to vote the proclamation of the empire of Augustine I—carrying the parody up to the *Sacre* with all the ceremonial adopted at Notre Dame for the *Emperor* [26].

The simile ought to stop here, as this exotic court lacked in its pageant, to soften the contrast with public distress, the splendor of military conquest. Yet even the return from Elbe found its counterpart in Mexico. After the deposition and banishment of Iturbide by Santa Anna—an easy task as the emperor displayed faint hearted resistance—the poor ex-sovereign determined to overcome the results of his pusillanimity and inertia by a return from Europe to the New World. He was arrested on landing at Mexico, however, and shot three days later.

You will see that the spectacle was of a nature to kindle the republican sentiments of Bolívar to whom, like Caesar, the crown was thrice offered. As to San Martín, if he had not left the struggle in 1824, disgusted and grieved, that precedent would have confirmed in his mind the belief that only a constitutional monarchy, *with an European prince at its head*, could spare the independent New World the flood of blood and infamy in which it nearly disappeared.

San Martín calculated the power of this tide of lawlessness and insubordination by the conspiracies which his officers themselves plotted against him, specially after the arrival in the capital of Peru, when the troops that had freed Chile plunged in those new pleasures of Capua, and lost the

best of their warlike nerve. And it was precisely the disappointment of not being able to persuade Bolívar to share his royalist conception—as the monarchical *feeling* was common to both—that chiefly induced San Martín to desert public life. In the famous interview of Guayaquil [27], in July 1822, the two systems—the monarchical and the oligarchic—met and collided. Bolívar's ambition, quite natural in a man full of imagination, of reserving for himself the glory of definitely liberating Peru and achieving the wars of Independence, dashed against the logical wish of San Martín's reflexive mind, not to forsake, until the end had come, a campaign which he had initiated. As it always happens in such cases, disinterestedness gave way to ambition—ambition for honors, let us say, not for personal gains, as these lower motives had not yet subdued the minds of the *Libertadores* of South American countries. Bolívar found the field too narrow for two South American glories, both of them seeking after the palms of immortality: Napoleon would have thought exactly the same way. San Martín did not want for an egotistical reason to delay the conclusion of a political enterprise which possessed a vital interest for a whole continent. So Washington would have acted.

This historical parallel suggests itself in such a way, it occurs so easily, that you will not be surprised to learn that it has often been made and often repeated. We shall soon present it once more as it explains in a certain way the evolution, apparently contradictory, of Spanish America. Meanwhile I have mentioned such a comparison because it facilitates the understanding of what happened in that famous interview at Guayaquil—an event which has proved to be an inexhaustible source for varied and oftentimes conflicting commentaries on the part of the historians of the period.

A document of a considerable value on the subject has even been recently published: no less than the dispatch addressed, on July 29th, 1822, by Bolívar's general secretary to the Secretary of State for the Foreign Affairs of Colombia [28]. In this dispatch it is said that San Martín insisted that an invitation be extended to some European prince and that Bolívar, though simulating indifference for the form of government of each State taken as a unit, opposed himself decidedly to the introduction of a heterogeneous element in the national mass (*sic*). Such indifference was however so much the less sincere as Bolívar's dream of federation, expressed during the interview, could only rest on similarity of constitutional systems. It would have been quite impossible to associate monarchies and republics at a time when their mutual antagonism

appears most clearly and the principles represented by both forms of government were violently arrayed against each other.

Yet it is conceivable that a democratic federation might have at its head an *imperator*. Republican Rome lasted nominally, as a political faction, on into Imperial Rome, in the same way as the French Revolution lasted on into the Napoleonic Empire. There was apparently no break in the continuity and besides, the essential thing was the stability of the system, much more than the European character of the dynasty, which could only have served to stimulate rivalries amongst the Old World's powers.

In fact, Colombia's minister plenipotentiary in London—let us give him this title by anticipation—had written to Bolívar in 1820, after a conversation with Lord Castlereagh, that Spanish-American independence would be acknowledged by all powers as soon as an hereditary executive power had been established, under any denomination whatever, in the new republics [29]. Europe wanted more than anything else the recognition of the nationalities which she had helped to establish; the monarchical idea represented, even more than a question of principle, a question of opportunism, as it always happens with every political question under its practical aspect.

The application of a remedy, considered the only one possible for healing the disorder in which the Spanish American republics had fallen in such a short period of life, could not therefore be regarded as unadvisable in this domain, and we must not then be surprised at the statement of such well informed historians as Señor Carlos A. Villanueva that "laying bare the mind, the heart, the intimate feelings of Bolívar, we will find that he always thought of a native monarchy, disguised or declared, under England's protectorate, as the exclusive way of assuring his work and saving his glory. He had never conceived"—such are the textual words of a writer who has deeply studied his subject—"a democratic republic, as he judged impossible its consolidation."

At the critical moment the great man's ambition lacked the requisite decision, or if you prefer, the impudence which would have led him to place on his own head, crowned with laurels, the royal diadem which had been offered to him and which he had sought for, perhaps only to allow himself the impressive gesture of refusal after some grandiloquent phrases about liberty. Perhaps in the consummation of such a plan he was checked by what I may call doctrinaire remorse. If for such reason his memory became dearer to the republican moralist, his work decreased in the eyes of mankind.

Great Colombia was shattered into fragments in the pursuit of that mirage of democratic solidarity. Her leaders forgot that the foundation of one or more Spanish-American monarchies, similar to ours, to which Brazil was indebted, first for her union, and then for her pacification, would have spared the Christian civilization of the nineteenth century many bloody and grotesque pages. If my own country can boast of her history during the last century, if she can relate it to other countries with some pride, she owes it above all to the liberal influence of imperial institutions. Historical truth must not be immolated to prejudices, even if such prejudices be democratic or derive their sanction from foreign suggestion.

Indeed it is enough to read letters and memoirs of the Era of the Wars of Independence to be convinced that the ideas of unlimited equality and liberty did not find unanimous approval in colonial circles. There was, in fact, a large proportion of minds that might be called moderate. This condition of affairs need evoke no surprise when we recall that there was a certain proportion of the partisans of Independence who were either self-educated or had derived their liberal ideas from Spanish sources. Among these men the horrors of the French Revolution could not but excite a repulsion and feelings of revolt, for the influence to which they had been subjected emanated, as was just suggested, from Spain rather than from France, although a reflection could never stand in competition with the original shining light of French intellectuality.

Spanish ideas displayed during the eighteenth century some visible tendency towards political and social reforms. I have already mentioned the progressive ideas of Charles III, and it may not be amiss to remind you that the most remarkable men of Spanish-American Independence—Miranda, San Martín, Bolívar, O'Higgins [30], Belgrano—lived all of them more or less in Spain. There they came in touch with those liberal aspirations with which the educated minds of the Peninsula were permeated. And these same aspirations were carried back to America by the colonists, in germ, so to speak. Here under more favorable conditions they not only gave theoretical and superior expression to local discontent but with further development directly paved the way for emancipation.

Hence emancipation was not a spontaneous or sudden revelation: it had its causes, its precedents, in a word its traditions. Spanish historians wisely establish a distinction between rebellions of protest against acts or measures of governors or Companies—mutinies without a pre-

appears most clearly and the principles represented by both forms of government were violently arrayed against each other.

Yet it is conceivable that a democratic federation might have at its head an *imperator*. Republican Rome lasted nominally, as a political faction, on into Imperial Rome, in the same way as the French Revolution lasted on into the Napoleonic Empire. There was apparently no break in the continuity and besides, the essential thing was the stability of the system, much more than the European character of the dynasty, which could only have served to stimulate rivalries amongst the Old World's powers.

In fact, Colombia's minister plenipotentiary in London—let us give him this title by anticipation—had written to Bolívar in 1820, after a conversation with Lord Castlereagh, that Spanish-American independence would be acknowledged by all powers as soon as an hereditary executive power had been established, under any denomination whatever, in the new republics [29]. Europe wanted more than anything else the recognition of the nationalities which she had helped to establish; the monarchical idea represented, even more than a question of principle, a question of opportunism, as it always happens with every political question under its practical aspect.

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conceived plan, true *straw fires*,⁶ as they are called in Portuguese and in French—and revolts guided or inspired by the idea of autonomy. These scholars find this second kind of revolt in several risings of the eighteenth century in Peru, Chile and Venezuela, even in insurrections of Indians, negroes and mulattoes [31].

Those historians, amongst whom I will mention Professor Rafael Altamira [32], do not also conceal that in official papers, such as the reports of viceroys and others, there are to be discovered sure and unsuspected evidence of the discontent existing among the cultivated natives due to the reason already pointed out—that the Spaniards from the metropolis enjoyed, so to speak, all official positions. The *Visitador* of New Spain, Galvez,—“visitador” was the name given to the royal commissioner charged of an inquiry into the administration of a certain viceroy or captain-general, about whom complaints happened to be presented to the sovereign—wrote in 1761 that the natives, I mean the *criollos*, had condensed their grievances into a set formula: “Spaniards not only don’t allow us to share the government of our country, but they carry away all our money” [33]. Mexicans even requested Charles III to grant them admission to public functions.

If at that time there did not yet exist in the colonies that definite patriotic feeling so conspicuous after the Wars of Liberation, there were not wanting evidences of what we might term a local patriotism. In fact this sentiment was so strong that it was the support given by England to the revolutionary attempt of Miranda in 1806 that chiefly contributed to the indifference shown by the dominating local class in Venezuela regarding such ill-fated separatist movements. In reality, however, the apprehensions of the Venezuelans were groundless. In supporting Miranda, England was intent only in aiding the colonies to sever their relations with the metropolis. In other words she was not seeking territorial aggrandizement as was the case with the British expedition against Buenos Aires in that same year, 1806 [34].

Such exclusivism is thoroughly characteristic of the Spanish national feeling: amongst you, on the contrary, French help was welcome, as if cosmopolitanism began even then to foretell its own advent. It is true that you could not harbor fears of foreign supremacy, and that any help of that kind contained a sure guarantee of success of a noble enterprise, already fully launched. For your own Revolution, long before the proffer of French or Spanish aid, was already the direct expression of a

⁶ Or, “feux de paille,” “fogo de palha.”

national conscience, or, to be more strictly historical, of a union of collective consciences, from States that had reached the age of emancipation.

In Latin America this spiritual evolution synchronized with, and in a large measure resulted from, the political crisis engendered in Europe. Yet it would be an error to minimize the influence of events which occurred in South America on the eve of political emancipation. For instance the defeat of the English and consequent reconquest of Buenos Aires by the city militia, which until then only served as a theme of mockery for the European Spaniards established in the colonies, had a repercussion throughout the colonial empire. Such events inspired courage in the local population deserted by their viceroy and so led to victory by Liniers' [35] daring mind, with the self-confidence which had so far been strange to them. Liniers practically proved—and his demonstration could not but produce extraordinary effects—that the armed population was capable of defending itself against any foe, domestic or foreign, even though this foe might dispose of every means for the success of his attempt.

In this current of local patriotism, whose existence had been hardly suspected, was merged another current of a more truly national character, determined by the struggle which the mother country was sustaining against French dominion. The result was that latent colonial aspirations, apparently discordant, but alike in essence, emerged, so to speak, to the surface of national consciousness. Thus old atavistic instincts, stimulated by the Bourbon abdication—for it was generally denied to the King the right of disposing in that way of the fidelity of his American subjects—came to combine with feelings of personal loyalty to this same unfortunate monarch, violently deprived of his crown. The party of independence chiefly displayed its ability in disassociating itself from the Cadiz Regency [36] through the declaration of a direct dependency from the crown, that is, the strictly personal tie which bound colonies to their sovereign. On this basis, identical in all sections of Spanish America, the various colonies without any concerted action set out to secure a complete autonomy. Such autonomy was tantamount to separation from Spain, for when the first colonial risings occurred, the belief was general that Ferdinand VII would never again occupy his throne. On the strength of the doctrine proclaimed by the colonists and consecrated by several jurists, the colonial empire refused to acknowledge the authority of the boards or "Juntas" which called themselves delegations of the Spanish nation: the suzerainty of the nation, as such, was by right null and void over America, which was an exclusive apanage of the monarch, and not a national property.

LECTURE IV.

Representative types in the struggle for the independence of the New World.—The Mexican curate Hidalgo and the Latin American clergy, partisans of national independence.—The Brazilian priests in the revolution, in the Constituent Assembly and in the government.—Temporary union of the aristocratic, religious and popular elements.—The creole royalty of Iturbide and the imperialistic jacobinism of Bolívar.—The conservative and the revolutionary elements in the new political societies.—José Bonifacio, Dom Pedro and Brazilian emancipation.—Bolívar's political psychology and its historical parallel with that of San Martín.—Their double sketch in the light of sociology, by F. García Calderón.—Their antagonistic temperaments and different education.—Federation applied, and the international ideal of Bolívar: solidarity, mediation, arbitration and territorial integrity.—The pact of Panamá and the abstention of the United States.—Bolívar's nationalism, his generosity.—Nativism of the subsequent *libertadores*, more in harmony with the environment.—Melancholy destiny of the superior men of the Independence and of their patriotic work.—Advent of the anarchic element, premature political decadence, and dawn of regeneration.

IN the Latin American countries as in yours, the idea of Independence was not embodied in men of plebeian origin but in the aristocracy, a circumstance that really corresponds to the existing moral and social status of the nobility and common people. This fact remains true even if we take into consideration the differences that existed between the many colonial communities and their varying degrees of development. Such a circumstance proves once more the truth of the aphorism that the government always belongs in point of fact to the minorities, though in theory to the majorities. It proves after all that the emancipation of the New World was much more a political than a social problem: a carefully worked out result of a preconceived intellectual plan—in which, to be sure, there were evidences of a determined will—rather than the instinctive consequence of a rebellion engendered by spite and hate. These tendencies, on the one hand social, on the other political, are both to be found in such capital events of the history of our countries, although the first one in a much smaller proportion, so as to vanish into the other. The French Revolution, for instance, was both one thing and the other, and finished by becoming more social than political, by aiming at equality after the proclamation of liberty whether or not based on fraternity.

It is true that in Mexico we see as a leader of the party for independence, when it was first initiated, a most typical commoner, the priest Hidalgo [1], of whom Morelos [2], another priest, was only a second

edition more within the reach of the popular element. This appearance, however, of the clergy in the battlefields was in such cases due to nativistic or patriotic, rather than to social reasons, as the lower clergy in Latin America was all composed of natives, and some of them even were half-caste. The church made it a point never to accept the prejudice of color. On the other side, the high clergy, the ecclesiastical hierarchy, was European by birth and in mind.

When the crisis for the separation took place, naturally the national clergy almost without exception embraced the new cause as a matter of patriotism, and as they represented to a great extent, if not almost entirely, the cultivated element, it was also quite natural for them to find themselves at the head of the movement, consequently in the number of those who had really to fight. Thus we find the explanation to the curious fact of a liberal, republican, and revolutionary Roman-Catholic clergy in the New World, in perfect contrast to what happened in Europe, where it was for the most part reactionary, dynastic, and absolutist.

In Spanish America, where the idea of democracy had at last identified itself generally with that of independence, the contrast became for that reason less extraordinary than in Brazil, though it was equally noticeable here. The establishment in 1808 of the Portuguese court in Rio de Janeiro, with the benefits emanating from it, worked as a stimulant for the monarchical feeling, and I have already mentioned how, after the departure of the King to Lisbon, the presence of the Heir Apparent as regent supplied a center to which might converge the efforts of all partisans of the national emancipation. Despite this fact, the Revolution of 1817—which for months maintained a republican form of government at Pernambuco and even appealed to you for a direct positive help—was, so to say, a revolution of priests. In fact, a number of its leaders, many of its propagandists, and not a few of its martyrs, belonged to the clergy. No European liberals, no French revolutionists ever felt their hearts throb with more enthusiasm for the cause of liberty, than those clergymen who paid with their lives on the gibbet for the democratic aspiration of their souls [3].

The Constituent Assembly, which the first Emperor of Brazil had to dissolve because it pretended, under the disguise of ultra-liberalism, to carry too far its oligarchical designs, contained a strong proportion of priests, and this faction was precisely the most advanced in political matters. Fascinated by the lively French of the *Encyclopédie*, those priests had forgotten the tiresome Latin of their breviaries, and their religious gowns only served to enhance their resemblance to the Conscript Fathers

of the French Republic. Brazil even counted as regent, during the minority of her second Emperor, a priest, Feijo [4], and he was the most radical, as well as the most energetic of the men who succeeded at the head of the State in the course of that historical period, which has been happily compared by a remarkable political writer, the late Joaquim Nabuco [5]—who died as ambassador from Brazil to the United States—to a true test of the republican system. In spite of his clerical character—slightly tinged with heterodoxy, to be sure, as he strongly opposed, for instance, ecclesiastic celibacy—Feijo did not hesitate when in power to dismiss the army invaded by the worst militarist virus, to arouse the civic zeal among the citizens, trusting to them the defense of public order, to suppress anarchy and to enforce justice.

Priests of this kind did not have much time left for their religious occupations; they surely neglected their spiritual mission and I even admit that their lives were not positively edifying, as most of their useful time was taken up by political duties and whatever remained was only too short for the charms of a family, for the great majority of the clergy had abandoned a life of celibacy. It was only later on, in the Roman movement represented by the *Syllabus* [6] that the ultramontane spirit pervaded the Brazilian clergy. This new influence was on the whole distinctly salutary in character; it did not in the least affect the traditional patriotism of the clergy while it produced wholesome effects in their morality. Moreover it tended to eliminate the religious element, especially as represented by ecclesiastical ministers, from the struggles of the various political parties for power—struggles not infrequently accompanied by violence and bloodshed [7].

Father Hidalgo [8], the monastic leader of the Mexican rebellion of 1810, a kind of tribune of the people who had deserted the pulpit for the forum was not only an active but a cultivated mind, brought up in the ideas of the French philosophers of the eighteenth century, initiated in the physiocratic doctrine, a partisan of the political and social reform capable of transforming the old societies. Hence he was far from being a vulgar agitator, a plebeian energumen: only he could not help having as his first revolutionary troops a band of a few peasants displaying the standard of the Virgin of Guadalupe, uttering threats of death against the Spaniards and cheering the king. They tried in this way to associate the equality of rights—a thing utterly unknown to them—with dynastic fidelity, of which they nourished a vague suspicion.

From that time on we may see Latin-American revolutions undertaken through the spirit of plunder, though cloaked with the principles

of liberalism. If Bolívar or San Martín, or any other like these, possessed the true and superior notion of fatherland and liberty, those who were grouped around them were nothing else than herdsmen to whose savage instincts the devil of destruction made the strongest appeal. I do not mean to imply that they did not understand the elementary freedoms—freedom of movement, or right of assembly, for instance. In order to give a concrete feature to his appeal to liberty and enlist the support of the popular elements, the Mexican curate of Dolores did not fail to abolish at once both slavery and the Indian tribute. The episcopal anathemas which Hidalgo called upon himself for this reason were invalidated by other ecclesiastical authorities, on his seditious march forward.

The civil struggle between royalists and rebels quickly and easily assumed the ferocious character which distinguished it through all Spanish America, although in Mexico, as well as in Venezuela and Buenos Aires, personalities from the higher classes did not delay in joining the popular movement towards independence. Some were driven by a certain plan of the King—Ferdinand VII—to emigrate to New Spain, exactly as King John VI of Portugal had emigrated with his court to the Brazils; others were determined by questions of class or rather class interests, postponed or menaced. We find on these last, in the very recent and excellent book of the Venezuelan historian Carlos Villanueva—*Ferdinand VII and the New States*—a work which constitutes the second of the series I have already mentioned, with the general title of *Monarchy in America*, the following information which greatly helps us to understand the particular development of the movement of Independence: “The reestablishment of the Spanish Constitution of 1812 by the liberal revolution of Cadiz in 1820 (the so-called rising of Riego) produced in Mexico a deep sensation, especially among the clergy, as that organic law had abolished all church privileges. Seeing that the new constitutional system of the metropolis would not grant them better conditions than those afforded by the Mexican revolutionists in the event of the latter’s victory, the priests and monks thought finally to come to an alliance with the rebels in order to try and save some of their prerogatives. Accordingly they began to support the new local revolution, which took on a theocratical character, more definite than that assumed at the time of Father Hidalgo’s rising at Dolores; now it was the high clergy that held the leadership of the party of emancipation, a party which found in the events occurring in the Peninsula a fit opportunity for their aims” [9].

Let us say that in Mexico, as well as in the other Spanish colonies of America, the party of Independence, after the first enthusiasms and the

first victories, had known—as it also happened with you—a period of defeats and discouragement, before recovering its strength and winning a definite triumph. The colonial royalty of Ferdinand VII, which fascinated many by its strange feature and seemed logical to many others on account of the Spanish anarchy, an anarchy that even called for foreign intervention, was planned to be autonomous and restricted, that is, the legitimate King of absolutist Spain would become the constitutional sovereign of free Mexico. This is enough to allow us to reckon the advance already taken by the idea of emancipation, fatally destined to a full execution. We must add that such a monarchical solution of the crisis of separation bound to the local revolutionary cause the territorial aristocracy and the creole officers, besides other native elements which in the beginning had nourished justified fears of the Indian soldiery of the rebel priest Hidalgo.

It was after all the monarchical solution which prevailed with the accession to power of Iturbide, transformed by his imperial acclamation into Augustin I. His military talents had become famous through his alleged prowess in the struggle against the rebels, and his social position was an element of prestige, as he belonged to a rich family. Thus you see that also in Mexico, where the revolution at its inception was invested with both popular and religious elements, the movement ended by obeying the guidance of the superior elements of the population.

This characteristic of a conscious orientation weighed at least as much as the plebeian fetishism for anything that smacked of royalty in favor of the acceptance on the part of many colonials of the idea of the establishment of one or more Spanish-American thrones. We have already seen how, on the contrary, the *Libertador* Bolívar was a strong antagonist of such ideas. He himself was noble and once rich, but he had immolated caste advantages and privileges of fortune upon the great political ideal which inflamed him, and in which we discern so strongly united a civil and aristocratic jacobinism, that may only find its model in Greece, and a military and democratic imperialism, of a true Roman origin. We must never forget that the sad destiny of the creole royalty of Iturbide must have surely and strongly contributed to keep Bolívar's mind aloof from the temptation of the crown, which more than once was offered to him by his admirers and his flatterers. Hence he contributed more than anybody else to maintain far from America the scions of the Spanish dynasty who might be tempted to encircle their brows with American diadems. The well-known Spanish writer Labra [10] judiciously divides the American population of the Spanish possessions of the time into three classes: the

first, devoted to a radical autonomy, composed of the intellectual élite and the lower clergy, all natives; the second, attached to the pure colonial system, to the despotic government of the metropolis, composed of the Spanish authorities, the higher clergy, likewise of Spanish birth, and the possessors of privileges; the third comprising the merchants, industrials, and planters, and numbering as many Europeans as colonials. This last class fully appreciated all the wrongs which their interests suffered from an imperfect local administration and an unhappy economic policy, but at the same time feared the party excesses certain to follow in the wake of suddenly acquired liberties. Hence, this third class practically represented a conservative ballast, and was little inclined to follow, without thinking, the rather limited revolutionary element. Señor Perez Triana says in the article in the *Cambridge Modern History* to which reference has already been made, that a Spanish victory at Ayacucho [11], in 1824, when the movement of Independence had already become concrete, general, and consolidated, would have still meant the reconquest by Spain of her lost possessions. Such a remark coming from an eminent South American writer may well excuse and justify the tenacity displayed by the metropolis in not recognizing the republics issued from her.

The proportion of Spain's followers was indeed large until the very last moment amongst the nationals of those new countries, and the majority of the colonial populations remained during the struggle neutral and indifferent, ready to go over to the side of victory in the same way—so says Señor Perez Triana—as the waters follow the declivity of the soil. The local, or creole aristocracy generally belonged to the moderate group, and it only felt obliged to exaggerate its liberalism, which had been noticed by Humboldt, when the European element accentuated its reactionary tendency. Those noblemen by birth went then as far as to join the agitators who at that time preferred to attract the colored population, opening before these unknown horizons, and involuntarily awakening those instincts of destruction ever slumbering beneath the surface.

The priests who played such a considerable rôle both in the Mexican and in the Pernambuco Revolutions, the Hídalgos and the Morelos, the Ribeiros [12] and the Romas [13] belonged to the class of those agitators and we also reckon amongst them, both because his career helps explain the mental evolution just discussed and especially because of his particular idiosyncracies, the most renowned historical personality of South America—Don Simon Bolívar.

This name is familiar and, I willingly fancy, also dear to you, as well as that of his great rival San Martín: rival I mean in the admiration and

gratitude of their countrymen that is, of all Spanish-Americans, as both of them aimed at the same high and noble purpose, which was the freedom of a whole colonial world aspiring to its independence. When fate made them meet and set in opposition if not their methods, their own ideals, and behind these, their personalities, San Martin, as we have seen, yielded the field and definitely retired from the political stage allowing Bolívar to reap the laurels of Junin [14].

Venezuela and Buenos Aires were in Spanish America, or at least in South America—as the Mexican rising was apart, though contemporaneous—the two centers of irradiation of the idea of Independence, personified in those two leaders who in Peru, the chief center of resistance, came to dash one against the other in their double and simultaneous projection. The board of *vecinos notables*, or notable citizens, comprising the *Cabildo abierto*, that is, open meeting of August 14, 1806, which obliged the inept Viceroy of Buenos Aires, Sobremonte, to transfer the military command to Jaques Liniers and the civil authority to the “Audiencia,” had been in the Latin New World the first true essay of the representative system and of political autonomy [15]. On the other side of the continent the resistance of the captain-general of Venezuela to the action of the local board organized to direct the affairs of the captaincy, independently of the Supreme Central Board of Seville, which had assumed royal attributions, was one of the immediate signs of the prolonged civil war which for so many years drenched Spanish America with blood [16].

In Brazil the principal effort would tend, not towards separation, but towards the maintenance of a cohesion still conventional, like that of the “State of Brazil,” coupled with the union of the “Para-Maranhão State” [17]. The result would be a whole imposing by its size, attained through the integration of elements disproportionate amongst themselves and badly assembled. Yet this same disproportion, the result of administrative action, was more apparent than real. The language, the religion, a common past and the character of its individual settlers—whose general feature absorbed the other insignificant European contributions to the race of the invaders—gave the country a decided and remarkable uniformity. There are few countries besides yours, which offer such a homogeneity of moral aspects as Brazil.

The task of uniting the political elements in one patriotic purpose belonged in Brazil to José Bonifácio de Andrada e Silva, a learned mineralogist, an eloquent academician and a thoroughbred statesman, who found in the Regent, Dom Pedro, the fittest instrument for the execution

of such a work. We may even say that he was predestined to exercise a decisive influence in the history of Brazil at this crisis. The importance accorded by the future emperor to superior principles of administration, the prestige which Dom Pedro enjoyed as the representative of institutions prized by all patriotic Brazilians, the personal qualities of intelligence and bravery for which the young ruler was conspicuous—all facilitated and perhaps rendered possible the great achievements of José Bonifacio [18].

The exclusion in itself of the dominion of the metropolis did not cost a big effort. Resistance indeed amounted to none, a fact which endowed the independence of Portuguese America with a character both logical and productive. At the same time there was necessarily lacking the romantic note assumed by the Revolution of Spanish America, thanks to the prolonged struggle which surrounded with an everlasting glory the personalities of Bolívar and San Martín.

At this point we find ourselves compelled, for a better comprehension of the subject, to have recourse to a historical parallel, in spite of the banality and vulgarity of such a literary process. Yet such parallels may be more than mere theoretical devices and may even, as will presently appear, partake of the quality of scientific precision. By a natural disposition easy to understand and even as a result of a point of honor, although historical justice must always be supreme and exclusive, Venezuelans and Argentines respectively praise with the utmost enthusiasm Bolívar and San Martín, at the same time trying, in the antagonism of their feelings, to lessen the merits of one or the other of the two heroes. And as there is no human personality without fault, it is not difficult for them to perpetuate their discussions on the matter.

So, obeying the instinct of impartiality, I address myself to a Peruvian writer, son of that land of pre-Columbian traditions, of colonial traditions and of heroic traditions during the cycle of emancipation; a land which was, as we have seen, the bulwark of loyalist resistance and the field of concentration for the troops which came down victorious from the Pichincha and for those which equally victorious came up from Maypu, all anxious to secure the freedom of the Spanish New World [19]. Fortunately the writer whom I speak of, Francisco García Calderón [20], is a master of sociology and one of the most balanced and thoughtful minds of Spanish America at the present time. You will judge better of his capacity by the parallel he once established between those two illustrious men whom Hellenic antiquity would have transformed into demi-gods and who would have been classified by our con-

temporary Nietzsche under the epithet of *Supermen*: "This American movement is concentrated in two great names: Bolívar and San Martín. In their psychological differences we are to find the image of the two revolutionary tendencies: in one the boisterous rupture with the past, imitation of the French Revolution and of the American Federation, equality to the prejudice of liberty; in the other the conservative mind within the revolution, new ideals soothed by traditionalism, respect and amplification of the monarchical ideal, liberty above equality. Those two forces, as exemplified in Bolívar, the man of the North, and San Martín, the man of the South, combined to repudiate the past, but were arrayed against each other in every thing that concerned the affirmation and building up of the future.

"In cast of mind they presented marked contrasts, Bolívar being ambitious and egoistic, of a despotic disposition, although great and visionary in his egoism; San Martín being loyal, sensible, timid, dominated by traditions. A genial and generalizing mind, the psychological type of the creole, Bolívar was bound to become an egotist; as an utopian he wanted to organize everything, to govern everything, to adjust minds to the same inflexible mould; he possessed the illogical spirit of all the great builders. San Martín, devoted to monarchy, devoid of ambition, and destitute of a commanding temper, submitted himself, like the Greek statesman to ostracism and returned with his daughter, a pious and faithful Antigone, to the heart of the monarchical traditions of France [21].

"We discover, however, in their fatal clashing more than the opposition of two different types of mind: rather do we find the play of two historical forces, the acting of two methods of social construction. Bolívar imitates Napoleon and San Martín reminds us of Washington. They establish the principles of democracy according to different conceptions. Bolívar was to triumph by his genius, by the suggestion of a high and growing ambition, by the excesses even of his work, and with him came the turn of administrative centralization, of political instability, of exaggerated equality, of social confusion. Bolívar was more American than Napoleon was French; he followed the hereditary feelings of his race and suffered the action of the environment, but possessed the originality of genius. Only, in America, the dominating qualities of our Bonaparte seem to weaken: the marvellous fibre, the primitive vigor, the energy of the *condottiere* are not the same . . . Both pronounce the *fiat* in the chaos, disclaim ideology and are ideologues, by their symmetrical mind, by their system, by a kind of political catholicism. Passionately fond of unity they both desire the coördination of all things on a unitarian plan.

"Napoleon, more imperative, aims at the mastery of the Revolution over Europe by way of imposture and jacobinism; Bolívar looks for liberty in America through confederation, by means of the political solidarity of his race. They both establish democracy through the amplification of their own power, as they represent authority, rising above the ordinary level of human affairs. They resemble each other in the determination and vigor of their social action. The first one is a solitary carnivore, the big human specimen, a marvel of Nature; the second her only child, the last expression of her creative power."¹

Taine marvellously described the integrity of the mental instrument in Napoleon, this strength which discovers unity amidst things heteroclitic and disseminated, this organic reconstruction of life in the dominating mind. Bolívar possesses a more analytic intelligence; in his unifying impetus he simplified things, and in spite of himself acted as an ideologue; his mind was rather critical than creative. He was the first to lend a direction to the revolutionary organization. His power was absolute to establish, to test, and to destroy. He governs people, distributes provinces, changes boundaries, founds Columbia, is absolute master of Peru, conceives a republic, Bolivia, to which he leaves his name; he aims at Roman unity and aspires to be the Caesar of a magnificent American centralization. The evolution of the American continent is but the reflection and realization of his thought: the military spirit, the influence of a strong personality, the complete creation of codes and constitutions, the nervous instability of collective movements, emanate from him.

San Martín is the emulator of Washington and like him aims at political objectivity; he knows how to extricate himself from the fatality of events. He gives his effort without imposing a rule and shows a tenacious and strong will, the sense of circumstances and of the progress of things. We find in him the spirit of moderation, the respect for the slow evolution of realities. A monarchist and a liberal, he wishes to interpret in a traditional sense the fatal movement of the Revolution. Like Washington he sees in "time and habit" the true foundations of social organization; he cherishes the same religious feeling for liberty, the same civic virtues, and the same puritanism. Before all else they are heroes of peace. Living in the same historical period, Bolívar and San Martín were destined to engage in the inevitable conflict, as they represented political systems based upon fundamentally different conceptions,

¹ "Le premier est un fauve solitaire, le grand specimen humain, une trouvaille de la nature; le deuxième est son fils unique, la dernière épreuve de l'effort créateur." García Calderón, *Le Pérou contemporain*, p. 64.

the Latin *imperium* and the Saxon individualism. Such clashing reminds us of the differences which developed between Jefferson and Hamilton during the administration of Washington. Hamilton, the courageous founder of *The Federalist*, upholds traditions, accepts aristocracy and federalism and only fears, like San Martin, the devastating tide of democracy. Jefferson, more liberal than Bolívar, cherished an equal hatred of privilege and in a generous impulse wishes to exalt every autonomy.

Washington did not believe in definitive formulas. He looked for the conciliation of the two political ideals, accepting both unity and federative autonomy. His theories of government and of the state were neither exclusive nor intolerant; it was possible to rally to their support without any sacrifice of moral spontaneity. On the contrary, South America allowed a simple, uniform, and authoritative model to be imposed upon her without the complexity and variety of life.

The adaptation, which was necessarily to follow, of an abstract mould to concrete realities, was destined to fill the last century in the Latin-American world with an agitation often idle, but not always barren. In some respects it was even productive, for along with much material and moral misery it resulted in a certain degree of common and promising progress. I beg, however, to be allowed to carry a little further a parallel which singularly contributes to clear up that understanding of a subject hitherto enveloped in much obscurity.

If we look through the biography of the two *Libertadores*, we shall see that San Martin was since his very first youth brought up on military discipline. As a cadet in the Spanish army, he fought against the Moors, the French, the English, and the Portuguese, going from Oran to Roussillon, from Bailen to Tudela [22], from the Mediterranean shore to the Portuguese province of Alemtejo. Early initiated into the secret revolutionary societies, he became an active propagandist of the movement for Independence; at the same time his numerous campaigns endowed him with the ability of a military leader, incapable of far reaching war plans, but knowing well how to prepare for victory.

Bolívar was quite a different mind. Joining intuition to the military art, and improvisation to strategics, capable, however, of genial inspirations, he was consistently to play the part prepared for him by his reveries, combined with an extraordinary tenacity—which urged him on to great deeds,—and by his education as a man of the world, who had traveled extensively and could shine in society. San Martin was as prudent, steady and considerate, as Bolívar was garrulous, turbulent and audacious. In the former, all the faculties gravitated towards conscience; in the

latter they were wont to fly on the wings of fancy and their colors acquired a variegated scale through a prism formed in its three faces by oratory, suggestion, political egoism, and the ideal of freedom. So, we may well understand that San Martin's influence increased after his proud retreat and the abnegation of his last years in a foreign country, and that Bolívar, nowadays a little forgotten, occupied a large place in the sympathy of his European contemporaries. His name was even popular in Ireland and Poland, countries fighting for their emancipation like his own. French liberals paid him the same admiration offered as a tribute to Napoleon and Washington, and fashion showed how popular he was by giving about 1820 his name—which it never lost—to a wide-brimmed hat of a decidedly inspiring aspect. Finally Carlyle, who never refused homage to heroes, called him a "genius whose history would be worth the ink employed in writing it, if only the Homer capable of such a task could be found."

The points of contact or, better said, the resemblances of genius between Napoleon and Bolívar are numerous and striking. Both possessed an imagination that was not only lively, but may even be called exalted. Bonaparte when in Egypt incited the courage of his soldiers at the same time that he gave expression to his own historical feeling by saying that "forty centuries were contemplating them from the top of the Pyramids." Bolívar wrote in an ecstasy from Chimborazo that he had reached the glacial region, where no human foot had been able to pollute the resplendent crown placed by Eternity on the lofty front of the dominator of the Andes: "I faint"—such are his words—"on touching with my head the vault of Heaven."

In both, however, imagination did not exclude a practical intelligence. Napoleon, the victor of Marengo and Austerlitz, was not only the author of the Concordat with Rome which gave satisfaction to the religious spirit of France, which had been suffering unjust persecution, but was also the compiler of the well known code of civil laws which assured the moral conquests of the French Revolution. Bolívar, the victor of Boyacá [23] and Junin [24], was also, as I have had already the opportunity of reminding you, the one who inspired in this international domain in which all Americans try to meet and to read a good understanding regarding such free principles as territorial integrity and compulsory arbitration. The first of these was, when it was proclaimed, a principle exceedingly conservative, as it attributed to each new sovereign State the same extension it had as a colony. So it gave the old administrative delimitations a prerogative of political boundary and—*uti possidetis juris*

—it granted the political unities, created at that time without corresponding precisely to the economic unities, not only the territories occupied *de facto* but also these possessed *de jure*.² If unfortunately such principles did not abolish throughout our double continent every war of conquest, at least it substituted at the worst moment, when the new Spanish nationalities were being organized, the prestige of tradition and the rules of Right for the use of brutal strength.

According to Bolívar's plan, a Congress of plenipotentiaries or American amphictyons was to give obligatory sanction to the sentences deciding the pleas between the delegations of the new governments. In the words of the *Libertador* it was "to initiate the system of guarantees which, in peace as well as in war, ought to be the shield of our destinies, and to consolidate the power of the great political corporation in the exercise of its sublime authority which was bound to lead our governments, maintain through its influence the uniformity of our principles, and appease by its single name the fury of our tempests."

The pact concluded at Panama on July 15, 1825, unfortunately without the complete approval of independent America, included some articles which contained those very principles of international law that nowadays have represented the greatest desideratum as well as the greatest obstacle for those who in the last Peace Conferences have fought on their behalf. I am going to read for you three such articles, so that you may see how the noble efforts of your President in favor of a wider scheme of arbitration have their precedents in our New World.

Article XVI, for instance, dealt with the principle of recourse to mediation: "The contracting parties engage themselves, and make thereto a solemn compromise, to settle in a friendly way all differences that presently exist or may arise among them. In case the agreement should fail, the powers in controversy will present their cases, in preference to any violent solution and with the design of reaching conciliation, to the consideration of the assembly, whose decision will however not be obligatory, if said powers have not previously decided so." Such a condition was of a nature to guarantee the full sovereignty of every one of the contracting parties, a sovereignty which many feared to see sacrificed to the convention for compulsory arbitration.

Article XXI would have endowed the Monroe Doctrine, already formulated at that time, with that wide character—I mean the full responsibility of the compounding parties—which it does not yet possess: "The contracting parties engage themselves, and make thereto a solemn

² A. Alvarez, *Le Droit International Américain*. (Paris, 1910.)

compromise, to maintain and defend the integrity of their respective territories, opposing themselves efficaciously to any attempt of occupation without the corresponding authorization and dependency of the governments to whom such territories belong in domain and property. They otherwise engage themselves to gather for such purpose, if necessary, their forces and resources."

Article XXII, notwithstanding its equity, has not yet been able to win a general approval in the recent Pan-American Conferences which have taken place in the last twenty-five years. It was conceived in these terms: "The contracting parties will reciprocally guarantee the integrity of their territories as soon as, by virtue of the special conventions celebrated between them, they will have determined and delimited their respective boundaries, the maintenance of which will then be placed under the protection of the Confederation" [25].

The adhesion of the United States failed to assure the reality of the pact of Panama and I think that you are acquainted with the reasons of such an obstruction. There existed at that time in your South, which in public affairs wielded a greater influence than the North, a feeling of violent hostility to anything tending towards the abolition of slavery. This sentiment was stronger than the aversion to a military alliance of the double continent superimposed on that commercial alliance which is now so eagerly sought. The same feeling existed in Brazil and precisely one of the topics to be discussed at Panama was the one referred to. On the part of your public men there was also to be found a reluctance to allow the freedom of Cuba and Porto Rico—a freedom secured only in our own day—to become a matter of general discussion.

In spite of his Americanism—he was indeed the first one to give expression to the feeling which received much later the name of Pan-Americanism—Bolívar never ceased to cultivate the spirit of nationalism. San Martín's military novitiate in Europe had rendered his mind somewhat a stranger to his native country. Bolívar, on the contrary, always belonged essentially to his fatherland, and this feature added to his intense power of magnetism contributed in no small degree to enhance his prestige.

When deserted by his rivals, repudiated by the nation he had created, vowed to ostracism, Bolívar did not feel the courage to abandon the shore of his beloved country: he expired at Santa Marta, tortured by many grievances. Meanwhile San Martín, without renouncing his love of country, preferred exile when he realized that his rule was thought too heavy.

The greatest fault with Miranda in the eyes of the leaders of the

Wars of Independence was that he seemed a stranger to them. The one day favorite of Catharine of Russia, the soldier of the Revolution in two worlds, had finally lost every touch with his nation, and his melancholy fate did not excite great compassion when Bolívar delivered him over to the Spaniards. This decision of the national leader was as inhuman as that of Napoleon ordering the Duke d'Enghien to be shot in the moats of Vincennes, although Bolívar explained his action by saying that he had seen in Miranda almost a traitor owing to the latter's readiness to receive overtures from the enemy and to renounce the perils of the struggle [26].

Yet Bolívar, like Napoleon, was capable of high generosity, not only of a private nature, as his refusal of every donation voted by Congress as a reward for his deeds, but of a public character. "I leave to your sovereign decision," Bolívar declared in 1819 before the Congress of Angostura, where the organization of Great Colombia was sketched, "the reform or recall of all my laws and decrees: but I beseech you to confirm absolute liberty of the slaves, as I would implore for my life and the existence of the Republic." To the Congress of Cucuta, which consolidated that political unison, he addressed in 1821 from Valencia a message in which he said: "The sons of the slaves who will henceforward be born in Colombia must be free, because these beings belong only to God and to their parents, and neither God nor their parents want them unhappy."

Other *libertadores* more closely in touch with their environment might succeed Bolívar, but they did not exhibit the same noble feelings. The fratricide wars which followed political emancipation left in their wake material devastation, social confusion, and moral degradation; the crimes perpetrated called for an expiation, and the high altruistic conceptions of Bolívar were not in harmony with the surrounding society which sought to accomplish them. Bolívar himself had no illusions regarding the task of political adaptation which he noticed around him. "Generally speaking," so runs his program of Carthagená, written in 1812, "our countrymen are not yet in a condition adequately to appreciate their new rights and privileges, as they are lacking in the political virtues which ought to characterize the true republican: such virtues cannot be acquired under absolute governments, when the rights and duties of the citizens are practically unknown."

This is why the excellent principles of international law proclaimed by Bolívar are only now truly put into practice and constitute a common ideal, after having received new vigor from the political society in which they were first formulated as well as from the communities to which they

were addressed. "A century later the ideals of the *Libertador* subsist," so wrote recently, at the occasion of the centenary of the Independence, one of Bolívar's admirers, the Colombian statesman Francisco José Urutia³: "but, as is natural, they have undergone the influence of a more advanced civilization, in which the capital preoccupation of the defence of the territory and of the sovereignty in its several manifestations is accompanied by the great aspirations of justice, of peace, and of progress which nowadays animate the society of nations."

This same realization of the progress already accomplished is the keynote of an eloquent speech by another South American statesman, the well-known Argentine, Drago [27], whose name is associated with that great doctrine of international law destined to triumph, and the germ of which is to be found in Bolívar's antagonism to the use of force in international contests. Such were his words: "South America begins to emerge from this unprejudiced period of childhood which only cared for problems claiming for immediate solutions. . . . All force and all tendencies of civilization concur to couple patriotism, without diminishing its vitality, with a feeling of benevolent tolerance capable of suppressing miserable jealousy and petty rivalries and suspicions, in order to draw humanity together, independent of racial conception, all of it working for the common welfare. So, the old ideal of Christianity must once more become our inspiration and our teaching in order that the political boundaries of the American continent may serve, not as barriers separating peoples, but as the counterparts lending greater solidity of the total structure, or the water-tight divisions which in the well-built ships confine the invasion of water in the moment of danger to prevent a shipwreck."

Any idea that creates proselytes, engenders at the same time suffering. Every noble cause counts its martyrs, as well as its apostles. The abolition of slavery counted amongst you John Brown: amongst us the foremost men of the Wars of Independence did, however, suffer what yours did not suffer in the corresponding struggle. And in summarizing the causes of this apparent anomaly, I repeat with pleasure in my own words a quotation from a United States historian. These causes were in fine "the stability of the political machinery, the spirit of the multitudes, the religion of respect toward liberators, the practical good sense, the inadequacy of the surroundings to the slanders of demagoguery, the lack of fuel for the revolutionary fires, the want of taste for the rash and violent reforms."

The specific absence of some of those qualities well explains the very

³ *El ideal internacional de Bolívar*. (Quito, 1911.)

different spectacle offered in its development by the Latin society of the New World. The above-mentioned Colombian writer, Urrutia, wrote on the subject a melancholy page, which I cannot resist the temptation of reading to you—even because the chief scope of these lectures is to give you, as much as the shortness of time and the competence of the lecturer permits—an idea not only of the mind of that Latin-American society, but of the literary shape taken by the traditional expression of its intellectuality: “How dark, how tragic the destiny of the liberators of peoples in South America! Our soul shrinks with pain when, looking towards the past, we see the faith of precursors of that work followed by the liberators themselves, all touched by the hand of an inexorable fate. The Venezuelan, Miranda, ends his life, as fruitful as unfortunate, in a miserable dungeon. The first liberators in Bogotá, Quito and La Paz, ascend the scaffold, as does Hidalgo in Mexico. Rivadavia [28] dies in exile, and Belgrano [29] in obscurity and poverty. O’Higgins [30] did not avoid proscription: he also drank to the dregs the bitter cup of disloyalty and ingratitude. The same happened to San Martín, who suffered with stoic fortitude, on foreign soil, the privations and sorrows of his last years. Sucre [31], the virtuous and magnanimous Sucre, fell a victim to a treacherous hand on the mountains of Berruecos. Bolívar, with murderous daggers risen against his heart, his soul a prey to mortal anguish, and his body overcome by fatigue and illness, goes in search of his grave on the shores of the Caribbean Sea: ‘Yes, the grave . . . that is all my countrymen reserve for me, but I forgive them. . . .’ Washington was allowed to expire blessing his work; Bolívar, tortured by scepticism, had to doubt his own; immortality smiled to the first before reaching the tomb; the mystery of the unknown surrounded the second and poisoned his painful agony.”

In Brazil neither Dom Pedro I [32] nor José Bonifácio [33] escaped a like unmerciful fate. The so-called Patriarch of Independence learned the way of exile as soon as his imperial master had violently dissolved a Constituent Assembly which seemed to aspire to the rôle of a Convention, for it was in this assembly that the great statesman of the first days of the Empire represented, with his two distinguished brothers, the liberal vanguard within the monarchical form of government. Even during the regency, although it was a parliamentary government, José Bonifácio was the object of unjust suspicions provoked by his reconciliation with the Emperor, who had abdicated in 1830. He was even compelled to give up the tutorship of the infant monarch—the future Dom Pedro II—who had been entrusted to him by his father Dom Pedro I,

the same sovereign who had proclaimed the national emancipation of Brazil, and who now was forced to leave the country in ostracism. Why such a divorce between the superior representatives of the national organization and the nationalities founded by them? The fact is, that when the lower elements demanded the price of their coöperation in the common work of political liberation, they did not meet with the necessary resistance from the higher elements, whose ardor had cooled down after the struggle, and who did not know on which foundations to build during the peace which followed the confusion of war. Rising against the earlier conservative and aristocratic oligarchies and subduing them, the elements composing these new anarchical strata rendered everything anarchic.

Bolívar had the foreboding of this sad destiny of his work, because prevision, an essential virtue for the politician, counted among his high gifts as a statesman and projected its lights over the noble and vast plans in which his mind was always absorbed. It was even this feature that made him in a certain sense so superior to San Martín, whose genius was that of a soldier rather than a statesman.⁴

Bolívar uttered in 1822 this prophesy: "Neither our generation, nor the one which is to follow, will see the lustre of the Republic we are establishing. I consider America as a chrysalis. . . . There will be in the end a new fusion of all races, which will give birth to the homogeneity of the people." As regards Brazil, it has already been said that the freedom we enjoyed under the Empire and which contrasted so much with the spectacle offered by the other Latin-American countries—since those which progressed beyond the chrysalis state did so only in the latter part of the nineteenth century—was rather granted by the monarchy than conferred by the citizens. Hence Brazil was a stranger to the enjoyment of that effort of adaptation in its fullness, which comes as the result of her own activity. For this kind of historic evolution, there was substituted the introduction into her body of a foreign though generous blood—if we may call foreign an institution which was indeed after all a national expression, although brought forth by a concurrence of circumstances.

In any case, Imperial Brazil constituted a model of liberty and peace for Latin America and furnished at least a real image of civilization, reflected from the throne, at the time when Spanish American Societies struggled in disorder and savagery. This period of anarchy was ushered

⁴ Cf. *e. g.*, San Martín's remarkable passage of the Southern Andes in 1817, comparable only to the similar deed of Bolívar in the Northern Andes—both of them reported by the military writers of our day as far superior to the passage of the Alps by Hannibal in antiquity and by Napoleon in modern times.

in by the appearance of leaders like Paez [34], in Venezuela, and Quiroga [35], in the region of the River Plate—men who emerged from the ranks of the illiterate populace and hence were better understood and cherished by their uncultivated countrymen.

The processes of transformation spread and became general in all those false democracies sprung from the Spanish colonial disaggregation, and neither the nobles nor the doctrinaires, of the kind of Monagas [36] or Alberdi [37], could oppose effective resistance to these upstart leaders just mentioned. The type of the chief crystallized itself, meanwhile, in the well known *general*, dominating a fascinated and unconscious multitude in which prevailed, regarding social matters, a communist instinct, and regarding political matters, a demagogic tendency. Now, demagoguery, like communism, is not a system which can resist the strong pressure of an individual energy combined with firm temper and well served by circumstances.

The temper of the metal has nothing to do with the use of the arm. The celebrated Argentine tyrant Rosas [38], who, although deprived of education, belonged to a good family, rested his ferocious power on the mutinous and bloodthirsty mob. His was one of the most miserable and sinister episodes of the struggle extending through all the former Spanish Empire between the new *Goths*—a nickname given to the old supporters of the metropolis—who were the conservatives, attached to their political interests founded upon social hierarchy, and the revolutionists, ambitious of power and contending for it in the name of liberty, in order to acquire the pleasures and benefits which could be in this way obtained.

In such an onslaught of the inferior elements of those political societies, the tradition of probity was lost,—a tradition which had distinguished the first generation and still distinguished Rosas, insensible and cruel but not dishonest though he was. Bolívar came out a beggar from a struggle in which he had entered rich, and maintained himself noble to the end. San Martín suffered real privations at Boulogne. José Bonifacio, when in the cabinet, was at a loss for his expenses, because a pick-pocket relieved him of his monthly salary, which he had received and carried to the theater; his brother Martín, secretary of the Treasury, peremptorily refused to give execution to the imperial order granting a new payment of the amount lost, but divided with the victim his own salary. The tyranny of Francia [39] in Paraguay, absorbing, crushing as it was, remained nevertheless zealously and absolutely honest.

The period of peculation and administrative immorality was initiated with the worst tyranny, the tyranny of the mob, which in such cases is so

easily ruled by envy and hatred. All regular authority having disappeared, the feeling of authority itself having vanished, the anarchy which was to pervert all public morality took its place, and from such anarchy there came only temporary relief in crises of despotism and prepotency.

So, the federalist bond that should have fastened the administrative units in a vigorous and splendid political chain, degenerated through all republican Latin America into a round of Satrapies, where everything was dependent on the whims and abuses of the chief satellites of the greater chief. Such corruption brought on the ruin of all that representative system, depriving both the executive and legislative branches of their legal titles and, in the incisive word of a late Brazilian political writer, making any rebellions against those constitutional powers as legitimate or at least as illegitimate as they themselves were.

On the other side, political sophistication incited satraps to defend to the utmost local autonomy, as such autonomy implied their own omnipotence. No wonder that, conceived and applied in this way, federalism has given birth to civil wars, homeopathic republics, and a hospital of nationalities counterfeit after the image and resemblance of the United States—so writes the above named publicist, who was an eminent jurist with a personal parliamentary tradition.*

The life of those countries was soiled and spoiled by a radical and in a certain sense hereditary vice, that of political activity without civic education. This vice renders oppositions seditious and governments arbitrary in our societies, establishing such deep contrast between the private manners of the citizens, open, pleasant, generous and tolerant, and their public manners, intransigent, violent, persecuting and even sanguinary.

There exists, however, exemption for this original sin. Through our continent, demoralized by the degradation of political habits, a consequence of the disfigurement of the noblest ideals by means of ignorance and greediness, a tendency toward moralization by labor and education has been progressively taking shape. Brazil cannot offer a proof as suggestive as other countries, of the incontestible results obtained in this direction, because her past of yesterday, under the monarchy, was worthy of being envied; but the Argentine Republic, for instance, is a living document, for it is not long since she contrived to free herself from the mire in which she had sunk, and to present before the world a comforting spectacle played by practical sense, professional education and industrious activity.

* Dr. A. Coelho Rodrigues, *Memoires sur l'union et la pacification de l'Amérique Latine et de l'Europe, adressés au XXIIe Congrès universel de la Paix de 1912.*

LECTURE V

The work of neo-Latin emancipation and the Iberian-American element.—Andres Bello and Mariano Moreno, types of superior colonial intellects.—The books which San Martin and Bolivar read.—Critical sense of Bolivar.—The poem *Junin*, by Olmedo.—Constituent assemblies and constitutions.—The "Middle Ages" of the new Spanish-Portuguese World.—Its first intellectual currents.—The liberal ideas of the generation of the Independence and the part taken by the colonial representatives in the Cortes of Cadiz and Lisbon.—Character of the literature of the new countries.—Heroic poetry and the Indianist school.—The tradition of the mother-tongue among the neo-Spanish peoples.—The cult of the Past.—French influence in literature and politics.—The Eclecticism of Cousin and the Positivist training.—Effect of English and German philosophies.—European Idealism in America.—Science and mental speculation.—Traditionalism and Modernism.

THE possibility of a general insurrection of the Spanish possessions of America,—as general as if obeying a preconcerted compact, and based upon motives apparently as legitimate and, in any case, as well founded, as the noble repudiation of foreign usurpation which had taken place in the mother country,—is in itself an argument in favor of the colonization work, which, in her own image and likeness, Spain had undertaken across the sea. We see that the separation was followed by the political and social organization of a number of more or less progressive nations whose organization was excellent in theory but only indifferently efficacious in practice.

The work of the mother-country was a great work, even as that of her children turned out to be, for it may be said that Conquest and Emancipation rival each other in their power and far reaching influence. And if, as the distinguished Venezuelan, Angel Cesar Rivas, in his admirable address on the occasion of his entry into the Caracas Historical Academy, has well said, that if there is anything that serves to differentiate races into superior and inferior, it is unquestionably a capacity for accomplishing great social or political undertakings which have as their chief elements perseverance, energy, aptitude for self-control, and that combination of rules of procedure respected from earliest times as the basis of the aggregate of ethical conceptions which is called morality. The same statement was made by the illustrious Andres Bello [1] at a time when

there was less cordiality between the mother-country and the over-sea offshoots, than in these days, when we have just witnessed, at the celebration of Independence at Caracas, the kindred of Bolívar fraternizing with the descendants of General Morillo [2]. His declaration is the more noteworthy because Andres Bello was Venezuelan by birth, Chilian by adoption, American in heart and soul, the living exponent of the intellectual and moral identity of Spanish America.

This celebrated poet, grammarian, jurist and professor, wrote that a people thoroughly degraded and devoid of courageous sentiment never would have been capable of performing the great deeds that distinguished the campaigns of the patriots, the heroic acts of self-forgetfulness, the sacrifices of every kind whereby the different American sections won their political emancipation. "Every one who observes with philosophic eye the history of our struggle against the parent-land," writes Don Andres Bello, "will recognize without difficulty that what enabled us to conquer in it, was precisely the Iberian element. The officers and veteran legions of the trans-Atlantic Iberia were conquered and humiliated by the leaders and improvised armies of that other young Iberia, which, while abjuring the name, still preserved the indomitable spirit of the Old Spain in the defence of their homes."

Andres Bello is himself one of the best examples of the actual value of preparation, of which the educated colonial element gave proof at the period of the secession and political and social reconstruction of the new nationalities. Another notable example is found in Mariano Moreno [3], Secretary of the revolutionary Junta of Buenos Aires, who, in spite of his youth, for he was scarcely 32 years of age when he died, displayed a remarkable promptness, decision and clearness of vision especially in all that pertained to intellectual emancipation. This noble-minded Argentine defended liberty of thought as applied to the press, libraries, and schools in the following terms: "Let us for once be less partisan of our antiquated ideas; let there be less self-complacency; give free entrance to Truth and to the introduction of Light and Learning; let there be no repression of innocent liberty of thought upon subjects of universal interest; let us not believe that this can ever attack, with impunity, Merit and Virtue, because with these gifts themselves testifying in their own favor, and always having the people as their impartial judge, the writings of those who unworthily presume to attack them will cause their own destruction. Truth, as well as Virtue, holds within itself its most convincing defence; discussion and scrutiny only cause the splendor and glory of both to become all the more apparent; if restrictions are placed upon speech, the spirit

will vegetate as does matter; and error, falsehood, selfish preoccupation, fanaticism and brutalization will constitute the watchword of the people and will cause their irrevocable decadence, ruin, and misery."

It might be said that we were listening to one of your earliest defenders of political liberties, to a Thomas Paine or Patrick Henry, with all their practical moderation joined to civic enthusiasm, rather than to one of the ardent disciples of the French Revolution, still less to a fanatic of the Convention. As a matter of fact, all the self-taught Latin-Americans—for in reality, that is what they were for the most part, as was also the case with many of the European thinkers of that period—had imbibed the French inspiration far more than your own.

We are ignorant of the books which formed the minds of many of the children of the Spanish-Colonial revolution, but our ignorance fortunately does not extend to the principal actors in the drama. We know that San Martín delighted in the military work of Guibert [4], the one to whom were addressed these burning epistles of Mlle. de Lespinasse, and that it was in the Manual of Epictetus that his soul sought the lessons of stoicism which made it invulnerable. As to Bolívar, the curiosity of his spirit divided itself among the utilitarian doctrines of Bentham, the subversive principles of French Encyclopaedists, the self-centered metaphysics of Helvetius, the scepticism of Hume, the melancholy and dangerous vagaries of Jean Jacques Rousseau, the ethics of Spinoza, the materialism of Holbach, the rationalism of Hobbes, and the wide and sure political vision of Montesquieu.

We are not surprised, in view of this wide culture, at the literary expression in which this great South American warrior and statesman knew how to clothe and was in the habit of clothing his thoughts and ideas. We are not even surprised by the critical sense evidenced by him in his delicious irony regarding the otherwise very beautiful pindaric poem of Olmedo [5], entitled "Junin," in which the beauties of versification redeem the affectations of style. I cannot resist the temptation of reading you a page of Bolívar's reply to his poet-friend, asking you to note that the letter is dated from Cuzco, the classic Inca Land of the Sun—the land of fable and story, as it is called in this letter, and that scarcely a year had passed since the battle of Ayacucho [6], which raised the Liberator to the pinnacle of Glory. Observe, notwithstanding, the gracious playfulness with which he addresses his bard:

"You explode . . . where there has not been the slightest discharge of a gun; you set fire to the earth with the sparks from the axle

and wheels of a chariot of Achilles, which never rolled in Junin; you lay hold upon all the personages and make of me a Jupiter, of Sucre, a God Mars . . . We all have a divine or heroic spirit which shelters us with protecting wings like a guardian angel. You adapt us to your poetic and fantastic style, and in order to prolong in the land of poetry the fictions of the fable, you raise us with your false divinity (the divine father of the first Inca, Manco-Capac) as the eagle of Jupiter carried to the heavens the tortoise which it must needs let fall upon a rock where the poor thing broke its claws. In the same way you make us beings so sublime that you plunge us into the abyss of nothingness, drowning in an ocean of light the pale lustre of our not too transparent virtues. You thus reduce us to ashes, my dear friend, with the lightening of your Jupiter, the sword of your Mars, the sceptre of your Agamemnon, the lance of your Achilles, and the wisdom of your Ulysses. If I were not so good, and you were not so much of a poet, I would go so far as to think that you desired to make a parody on the Iliad with the heroes of our poor farce. But no; that I do not believe. You are a poet, and you know as well as did Bonaparte that there is only a step from the heroic to the ludicrous, and that Manolo and the Cid are brothers, although born from different fathers. An American will read your poem as a canto of Homer, and a Spaniard, as a canto of Boileau's *Hyssope*."¹

This extract is sufficient to give you a clear idea of the capacity for intellectual activity of that generation of colonists; of their capacity for moral activity, of which none but a cultivated people would be susceptible, you can form an idea, remembering that it was so great as to cause the patriotic fervor manifested in the liberation of the New World of Columbus to be rightly regarded as equal to that manifested in the reconquering from the Moors of the Iberian Peninsula. Nor does a century—for that is the period passed since the dawn of Iberian Colonial emancipation—seem too long a time for a continent to reëstablish itself after such an upheaval.

It is evident that when one speaks of cultivated people and of patriotic fervor, reference is made to a restricted minority, whose worth it is given us to measure by the above-mentioned names of Bolívar and Andres Bello. This man of many-sided talent denounced, as a poet, the influence of the Didacticians of the eighteenth century in France, of whom Delille was the mouth-piece. As a jurist, it was he who proclaimed in South America the first principles of that law of nations which became one of the favorite fields for the intellectual activity of the societies which

¹ Le Lutrin.

there flourished and where they succeeded not only in introducing liberal ideas, but in attaining tangible results. Finally, as a philologist, he edited the best grammar of the Castilian language, which that other master of neo-Spanish philology, Rufino Cuervo [7], of Colombia, lately deceased, reëdited and modernized, amplifying it by his profound learning, both men revealing thereby a feature upon which I will touch later, that is, the devotion to the nation's past, manifesting itself through devotion to the national tongue.

The legislative assemblies that met here and there in different places of their sessions contain many praiseworthy documents of learning and may be regarded as unmistakable exponents of the colonial culture. Many of their members had never crossed the ocean; nevertheless, the reports of their sessions contain many praiseworthy documents of learning and ability, side by side with the inevitable childishness and ingenuousness of political inexperience.

In Venezuela, the minutes of the first Congress which proclaimed the separation, were republished the past year, from which we see that courage and confidence were not wanting in this Constituent Assembly. Without the Congress of Tucuman [8], the Argentine Confederation would have fallen entirely to pieces, completely justifying the saying of Bolivar that in the Spanish American lands a great monarchy would have been difficult, and a great republic impossible. In Brazil, the Assembly of 1823 [9], although dissolved as seditious and, in fact, very jealous of her liberty of action and very suspicious of imperial loyalty, comes near to being, for those who today scan the records impartially, a model legislative assembly, not only for its tried patriotism, but also because of the clearness of its political vision.

The project of the Constitution which it drew up served to shape that which had been elaborated by the first State council of the Empire, sanctioned by the sovereign, and accepted by the municipal chambers of the country, after it had been expurgated, of course, of everything that resembled democratic excrescences, but preserving alive all the liberal spirit which shone so brightly at that time, the flame of which was only fanned into greater brightness by the reaction which sought to extinguish it. This liberal spirit finds marked expression in the religious tolerance which throughout Latin America took the place of a fanaticism that had become traditional, although this was not so complete or blind, as many have tried to make us believe. The following admirable words are Bolivar's: "In a political constitution no religious creed should be prescribed. . . . Religion is the law of conscience. All law pertaining to

Religion annuls Conscience, because in making duty a necessity, all merit is taken away from Faith, which is the basis of religion."

It is curious to observe that in the assemblies in which the organic laws of independent Latin America were modeled, the predominant moral influence was not so much yours, as it was directly French. These laws were among the finest triumphs of the Encyclopedists. Emancipation of thought, the forerunner of political emancipation, was developed under the influence of these reformers, and their work—namely, the naturalist theories of Rousseau, the impassioned doctrines of Diderot, the negativist synthesis of d'Alembert—was that which first changed the guides of the movement towards separation, so that they became strangers to their own fellow citizens, among whom the rule was intellectual, quite as much as administrative, subserviency.

I have already had occasion to speak of this lack of correspondence with environment. This was the first of the difficulties against which the Latin-American reformers had to struggle when they tried to free themselves from the trammels of a century of mental and moral stagnation, as the third colonial century has been termed, following, as it did, a first age of struggle and lack of discipline, and a second age especially notable for its colonizing activity.

Francisco Garcia Calderon aptly styled all this period the "American Middle Ages," and indeed it vividly recalls to our minds that historical age, a kind of a crust under which intense fermentation was seething. To use another figure, it was as if beneath the slimy surface of a body of water were circulating currents unseen and unnoted by the ordinary observer, yet possessing sufficient force to transform the apparent calm into a boisterous sea. Then we see huge waves arising—the waves of Humanism and Reform—and despite Catholic and Absolutist reaction, the agitation does not grow more calm, but instead bursts into the storm of 1789, the effect of which was felt in Latin America as the reflex flow of a distant, violent tempest.

Across the seas, as in the Iberian Peninsula, the defence of Catholicism and even of Absolutism, had been confided to that special institution called the Inquisition, which did not actually exist in Portuguese America; those guilty of being Jews and heretics were transported to the Kingdom of Portugal for punishment. Scholasticism brooded over education, while erudition undertook to satisfy mental curiosity, thereby occupying minds by means of futile dialectics and rhetorical exposition.

Duns Scott and St. Thomas Aquinas, consequently, were the principal authors, transported from the Spanish to the Spanish American univer-

sities, although Descartes and Locke, that is, Rationalism and Sensualism, were not unknown in the New World, for these ideas seem to have been discussed in Mexico by the priest Gamarra [10], in the eighteenth century.

Nor did the development of thought in northern Europe fail to be reflected in Spain and Portugal, but in the colonies its image was less clear, because there it was only the reflection of that other reflection. In any case, as Señor Francisco Garcia Calderon tells us in an excellent paper on the intellectual currents of Latin America presented to the Philosophical Congress of Heidelberg, and included in his volume upon "The Professors of Idealism," the Natural Law School originated new ideas about the Indians which could not fail to suggest new sentiments in regard to them, and the Cartesian Scepticism, as well as the scientific discoveries of Newton, were explained and discussed in colonial publications towards the close of the eighteenth century.

The social development of this period, which was especially fruitful in political changes, found, therefore, a field already prepared for the germinating of ideas of liberty of thought and democratic liberty of the French philosophers. Their extreme theories, through their very violence, were more acceptable to spirits ready to give eager welcome to revolutionary ideas than the well-weighed opinions of Washington, Adams and Hamilton, and even of Jefferson, who not having been in vain a compatriot and contemporary of Franklin, passed these European extravagancies through the sieve of his wholesome poise and solid good sense.

It was men educated in the principles of this greatest of revolutions—principles, however, now partially modified by the Napoleonic restoration of order—whom the colonies sent to the Constitutional Cortes of Cadiz and Lisbon, to be the interpreters of their culture and aspirations, and who played a conspicuous part in both of these Assemblies which, while revolutionary in origin, were practically constructive in purpose.

The Brazilian deputies who, in 1821, took their seats in the Portuguese Constituent Assembly [11], supplied the better part of the Parliamentary element of the Empire. They were not able to be present at the debates until the end, nor to defend to the utmost by word of mouth or wisdom of procedure their national rights, because the ill-treatment of their colleagues and the insults of the populace were insufferable. The separation of the two countries was becoming more clearly defined across the seas. In proportion as the old country tried to place the new kingdom of Brazil under former colonial dependence, the breach kept widening, and the circle of complete rupture closing in. It was thus that the liberal Portuguese attempted to put liberty in practice.

In Spain, the situation was somewhat different. On the one hand the Colonies had given proof of Unionist sympathies in the worst of the crisis, both by resisting the seductions of French agents, such as that Marquis de Sassenay who was appointed by Napoleon to Buenos Aires then under the Viceroy Liniers [12], as well as by the gift of ninety millions to aid in the expenses of the Peninsular War. On the other hand, in spite of the admitted and recognized principles of perfect political and civil equality between Spaniards and Americans being denied in practice, and in spite of the merchants of Cadiz having secured the revocation of the decree of freedom of commerce between the colonial possessions and foreign countries, there was in Spain, nevertheless, a certain feeling that sympathized with at least some of the colonial aspirations, some expression of which we meet with even in official documents.

While in Portugal jealousy prevailed because Brazil had become the seat of monarchy and because the King was apparently well satisfied to remain there, in Spain, a common evil, that of the lack of a legitimate sovereign and subjection to foreign dominion, in the one case actually existing, in the other virtually so, tended to draw the mother country and colonies into closer relations. As a matter of fact, in 1810 many people, even those of the Peninsula, believed the old Spanish independence to be irrevocably lost; but the excuse given for the hostility of the American possessions to the Regency at Cadiz was that their vote and opinion had not been taken in its organization. The declaration of Caracas stated most clearly that the Spaniards across the sea were not colonists, but integral parts of the Spanish Kingdom, and as such, upon the fall of the monarch, they were called upon to exercise provisional sovereignty.

The Spanish-American representatives at the Cortes of Cadiz, because of what has been indicated, were more fortunate in the beginning than the Brazilian delegation at Lisbon. It fell to the lot of the former to act as a pendulum, oscillating between antagonistic opinions, holding the balance of power and playing a part similar to that of the Irish party in the present House of Commons, precisely dealing with the identical question of "Home Rule."

The over-sea deputies voted naturally with the Liberals in questions touching great reforms of common interest, but in matters of practical or current legislation they occasionally joined with the opposite party. A Spanish historian writes that they put a price on their support, for they always exacted as advance payment, some concession which it was often impossible to grant, giving it to be understood that thus trafficking with their votes, they hoped to accomplish through Parliament almost the same

for their country, or one might say for their countries, as the insurgents at the front were fighting for. The fact is that if the reforms attempted at that time had been realized earlier, the separation would have at least suffered great delay, for such reforms involved a political bond similar to that which binds Canada and Australia to the British Crown. However, history records what was, not what ought to have been. In one of the beautiful "National Episodes" of the Spanish novelist Perez Galdos, there figures a personage whose ambition is to write a History of Spain to suit the ideals to which she should have attained.³ Quixotism could scarcely be carried to greater lengths. In this imaginative history, Ferdinand VII, after being sentenced and ordered to be shot, is described as marching to punishment to the roll of arms and appealing to the judgment of posterity. How different was the reality—a disloyal king strangling every attempt at representative rule. For the Cortes of Cadiz was quite different from the ancient Spanish Cortes. This latter body, like the analogous institution of Portugal, never really represented the entire country, but only those cities, towns, corporations, or individuals, that through merit or favor had attained to such right. Nevertheless, while there were in the older times classes that still remained servants of those classes who were able to appear in the Cortes and claim immunities and privileges, in this manner affecting the social equilibrium, a principle new to these Peninsular gatherings, that of national sovereignty, was affirmed by the Assemblies at Cadiz and Lisbon. In fact the first act of the Spanish Cortes was to assume such sovereignty, declaring null and void the ceding of the Crown of Spain in Napoleon's favor, "not only because of the violence which had characterized the unjust and illegal acts of Bayonne, but principally because the consent of the people was wanting." The people had finally risen for the restoration of national dignity, honor, and liberties, at the same time that they were restoring the national monarchy.

If in Spain, Fernando VII acted in relation to the Parliamentary movement as he acted in every emergency, namely, with hypocrisy and malice, in Portugal Dom John VI, who was immeasurably more intelligent and good-hearted, lacked energy enough either to remedy the excesses of the demagogues or to check the absolutist reaction. His natural weakness of character here reached its most acute stage. The result was that whether because of the procedure of their sovereigns or because of deeply-rooted instincts which demanded that patriotism be uncompromising, the

³ This same method of investing history with the garb of romance has been successfully applied to the United States—with even a smaller admixture of fiction—by your author Edwin Markham in his series "The Real America in Romance."

Spanish and Portuguese Kingdoms showed themselves to be deaf to the voice of political justice in spite of the fact that this would have resulted in equal advantage to both of them. The separation took place in Spanish America under conditions of unusual violence, leaving a bitterness of animosity even in Portuguese America. In the state of mind subsequent to and determined by this chief event, which created in both communities a situation identical in nature, only different in intensity, we trace the origin of the intellectual aspect peculiar to Latin America during the last century. In any consideration of the prolongation of the Latin civilization to the over-seas countries, the circumstances under which the separation was effected inevitably assume a certain importance. This is especially true as regards both the distinctive form given to literary expression by the temperamental peculiarities of the colonists, as well as the local traditions already long established for so new a country.

Among the Spanish descendants, who were more warlike by nature, and whose struggle for independence had been more obstinate, it was natural that the heroic element should prevail. The stanzas of Olmedo, celebrating the victories of Junin and Ayacucho, symbolize the poetic school evolved by this patriotic sentiment which had as its ultimate expression in prose the work entitled "*Venezuela Heroica*," of Don Eduardo Blanco [13], a brilliant writer whom his country crowned just before his death. Bolívar is always the epic figure which evokes the memory of the not far-distant past: the Spaniard was at that period the target for all sorts of maledictions. "War to the Usurper," exclaims the Inca Huaina Capac [14], when he appears before the conquerors on the night of Junin. "Do we, perchance, owe him for any benefits—light, customs, laws, religion? No, nothing! He was ignorant, full of vices, fierce, superstitious. His faith, atrocious blasphemy, is not the faith of Christ. Blood, lead, steel, these are his saints, his dearest sacraments."

Among the descendants of Portugal who were more sentimental by nature and whose emancipation was almost bloodless, Indianism or the idealizing of the Savage as the heroic type, predominates. Indeed, this was not entirely unknown in Spanish America, where it served as inspiration to some of her best poets, such as Juan Leon Mera of Ecuador, the author of the "*Virgin of the Sun*" [15]. However, the tendency was not so general as in Brazil, where it is prominent in the best writers—in verse, in the lyrics of Gonçalves Dias, in prose, in the novels of José de Alencar [16]—coming to be a recognized feature of the national literature, at least in its most flourishing period, that of Romanticism. In the poet, the

Indian sentiment was more natural and spontaneous because of the admixture of Portugese and Indian in his blood; more conventional and artificial, but none the less beautifully expressed, in the prose writer who was of pure European race. But in both, the tendency was the same, and the most competent of Brazilian critics, Sr. José Verissimo [17], defines it in the following extract, from one of his volumes on "Studies in Brazilian Literature."

"For the first time our poetry breathes the pungent odors and soft perfumes of our virgin forest, the air of our campos, the affected, sensual sentimentality of our amorous passions, of our griefs . . . something in fact, that was thoroughly native—our popular poetry, our ballads, risen as it were, to the level of great poetry, imbuing it with their sentiment and melancholy. The idealizing of the savage awoke in our souls for the first time some feeling for these unfortunate creatures, and the Romance reaction, exaggerating it, bestowed upon it a chivalric and glorious aspect."

In both these Brazilian writers, the greatest of the Romantic school in their country, written expression was equally literary and polished, emphasizing the fact that both were true Purists, perfect masters of the Portuguese language. Along with this trend of zeal for pure literary form, we see the two Iberian literatures of the New World resembling each other, at least for a time. Later, in proportion as the traditions of the home-land began to loosen their hold upon the neo-Portuguese, the devotion to a common mother-country tightened its grip upon the neo-Spanish peoples.

We are treating here evidently of a bond of union purely moral, not political in its nature. Your war with Spain, which from the Spanish view-point was aggression of the stronger against the weaker, ultimately contributed towards the deepening of this characteristic, purifying a filial sentiment that is undeniably honorable. In other words, at the very time when recollections of the bloody struggle between mother-country and revolted colonies were most vivid, and strong suspicions and animosities still lingered, the love of the mother-tongue was, as it were, the outward expression of a latent devotion.

The literary men of yesterday, like those of today, stood guard over the language that had reached a beautiful maturity, and whose purity was threatened by its exotic environment; to such an extent was this true that the academies of the Spanish language founded across the seas considered themselves all as branches of the Spanish Academy, not as independent organisms; in this way establishing intimate intellectual

association. The brilliant Peruvian poet, Santos Chocano [18], upon the presentation of his volume of verses "*Alma America*," to the King of Spain, says with emphasis in his dedication that the language of Cervantes availed more than the arm of Columbus to make him monarch of that fruitful Eden, and he adds with spirit, that the sons of Occidental India had for three hundred years looked upon the author of *Don Quixote* as the best of their viceroys.

In Brazil, the Purist tradition is far from being equally revered today: or rather it has been fading little by little among the scholars, and it is to them that I naturally allude here. The Academy of Letters at Rio de Janeiro, modeled after the French Academy, had as its aim to dedicate itself to the future Brazilian language, rather than to the ancient Portuguese tongue, and even if we do count among our number a writer such as Ruy Barbosa [19], master of all the secrets, artifices, peculiarities, modulations, and idioms of the language of our European ancestors, an equal of that great Jesuit of the XVII century, Antonio Vieira [20], both rivals in verbal invention, the fact is due more to individual caprice than to a general race sentiment.

Nevertheless, the earliest Portuguese lexicographer, Moraes Silva [21], who is still regarded as an authority and who rendered accessible the prolix, erudite work of the Abbé Bluteau [22], was a Brazilian of colonial times, and, after the Independence of Brazil, the grammarians of Maranhão enjoyed merited fame. At this same time, however, there was spreading the doctrine that a new nationality should not only have its special literature, but a distinguishing language. Literature thus lent a hand also in forging weapons against the former mother-country in the political arsenal of Time,—weapons with which to oppose whatever might have remained of its moral preponderance.

This feature of hostility was infinitely less pronounced among the nations of Spanish descent who even found in a common literary Past one of the strongest claims of their respective personalities. From the international point of view they discovered moreover in this equality the germ of a future Iberian-American Union. One might say that the intellectual harmony in this case was always exerting itself towards a counteracting of the tendency to political dispersion.

No better representative of this disposition ever lived than the aforementioned Rufino José Cuervo [23], the late distinguished Colombian philologist and a patriot whose love of country was above question. A profound student of Spanish letters, both ancient and modern, in his famous "*Dictionary of Construction and Rules*" he has made an admirable study

of the Spanish language, with all its richness, its rules and peculiarities, accepting the inevitable American provincialisms at the same time that he defends the traditional character of the original language.

Although not written with this object, this work constitutes in itself a lively protest against the conviction previously set forth by the author that the Spanish language would be broken up and transformed in the same way as the Latin was broken up into the Romanic languages, the provincialisms thus destroying the old idiomatic unity. In this connection, it does not strike me as a happy inference which Cuervo draws in regard to the English of the United States and Great Britain, because it seems to me that I note on the part of their cultivated people—but I am unable to say whether or not my theory leads me into error—a tendency towards philological approximation. Even though this tendency is found only among an intellectual minority, that is no reason why it may not prevail, but rather the contrary, since the victory always falls to the daring minorities.

In both cases, the study of the national origins tends to draw them together. It is by allying this sentiment of a collective and remote character with the individual and local sentiment, incorporating the national instinct with the patriotic, that the Peruvian poet, Santos Chocano, rises to his beautiful effective synthesis, in which he refers to his poems as Indo-Spanish, and styles himself "Poet of America," well meriting what another great neo-Spanish poet, Ruben Dario [24], has said of him:—

"El tiene el Amazonas y domina los Andes:
Siempre funde su verso para las cosas grandes:
Va, como Don Quijote, en ideal campaña:
Vive de amor de America y de pasión de España."

Translation of Mr. Howell:—

"His hold is on the Amazon; o'er the Andes is his sway;
His Muse to naught but great things attunes her note, alway;
Side by side with Don Quixote, waging an ideal campaign,
His Love—it is America; his Passion—it is Spain."

It is with such noted devotees that Spanish American poetry proved, in spite of its traditionalism, to be superior to contemporary Spanish poetry, acquiring at the same time, marked individuality. It is only fair to state however that its models were not exclusively Peninsular. The French intellectual influence predominates in all Latin America during

the nineteenth century, in politics as in literature, in poetry as in philosophy.

Lamartine, Alfred de Musset and Victor Hugo were freely imitated across the seas in what pertains to their sentimental emotion, their ardent sensualism, their verbal brilliancy. Benjamin Constant set the stamp of his constitutional theory upon the monarchy of Brazil, at the same time that the doctrinarianism of Guizot, with all its liberal austerity, was constantly being invoked in other countries where military anarchy reaped the benefit of political aspirations. The Eclecticism of Victor Cousin was, at this time, the favorite philosophical cult of those who allowed themselves to be fascinated by the charm of a refined spiritualism and the graces of an eloquent style. The impress of this amiable rhetorician was continued through his intellectual successors, Saisset, Janet and Jules Simon, until the Positivism of Auguste Comte, flourishing side by side with Spiritualism, gathered over-sea groups of enthusiastic followers, and sought to mold into distinctive and well controlled form the Latin American mentality.

There is little difficulty in tracing the English influence. We have only to go back to Don Andres Bello, a disciple of the Scotch Speculative School of Reid and Dugald Stewart, in whom Garcia Calderon points out the attributes always characteristic of an Anglo-Saxon philosopher: good sense—which a famous Portuguese satirist has called common sense—moral stoicism, and skill in analysis. In passing, we must mention the name of Stuart Mill, associated as it is with the criticism of representative rule, and we next come to the Evolutionism of Herbert Spencer. Evolutionism rivalled Positivism in popularity, that is in so far as its effect upon intellectual activity is concerned. Then the preoccupations of social problems entered to hold in check the excessive individualism, which in lyric form tinged with romantic color all political and literary expression of the first half of the nineteenth century.

Weak and uncertain in the beginning, the new mental currents exhibited humanitarian instincts corresponding to the social demands, as well as a frantic enthusiasm for progress, which is simply another phase of Idealism; subsequently, opposing all traditions, it assumed an openly anti-religious character closely associated with a devotion to science. All over Latin America the struggle between Religion and Science showed itself so uncompromising that no one would have believed possible the conciliation that soon followed, so much the less anticipated because of the old antagonisms between thought and dogma, which existed in all of these countries.

LECTURE VI.

Moral integration produced by the fusion of the races, the condition of social equilibrium.—The historic episode of Bolívar and Pétiou.—Disadvantages of inter-marriage, which gives rise to a great difference in ideals.—Political unrest of Latin America, formerly the hope of the European democracy.—Causes of the revolutionary disturbances.—The anarchical and conservative elements in the Iberian societies of the New World.—Bolívar's conception and its realization in Brazil.—Strength of traditionalism.—Historic function of the Brazilian Monarchy.—Federation and the rule of dictators.—Private initiative and the work of education and moralization.—Liberty and tyranny.—Troubles in the evolutionary march of the Peoples across the sea.—Lack of harmony between the theory and practice, between the régime and the people.—The Brazilian oligarchy during the empire and its mission.—Political regeneration through social education and economic development.—Mariano Moreno and Dom John VI.—Industrialism and the emancipation of the people.—Violence and culture.—Qualities, services and glories of Latin America.—The American conscience and Pan-Americanism.—America for humanity.

THE fusion of the races inhabiting Latin America is a forceful factor in that moral integration which represents the fusion of sentiments—an integration deeper and consequently more significant than either political association or literary union, since the former might be actuated by self-interest and the latter be merely the result of a worship of form or love of the beautiful. Race fusion produces a state of social equilibrium which will become stable as soon as differences in education are corrected and reality takes the place today occupied by imagination expressing itself in verbosity. And this same fusion constitutes the basis for a cordial union which, as we have already had occasion to verify, represents a tradition and is one of the best guarantees of the future of these lands of Spanish-Portuguese civilization.

During the colonial period in Brazil, the dominion of the Dutch, which with Pernambuco as its capital comprised an empire extending from the Amazon to the São Francisco, was overthrown and the Portuguese power reëstablished by the joint efforts of the whites, Indians and negroes, who fought in separate regiments, but under the same flag, the same command and with the same object. The regiments of the three races which formed the national population, worked together for the reconquest of the territory, and their chiefs, regardless of their color, were

equally recompensed, honored and ennobled by the government of the mother country [1].

One of the ceremonies attending the celebration of the One Hundredth Anniversary of the Independence of Venezuela was the inauguration of a monument to Alexandre Pétion [2], the negro President of Haiti who did not hesitate to welcome the exiled Bolívar and supply him with vessels, arms, ammunition, provisions, money, and even with a printing-press for the sacred enterprise of emancipating the continent from slavery such as that in which this zealous lover of human liberty had been. The only condition which the precursor of Lincoln imposed upon the emulator of Washington in exchange for his valuable services, was that all those in the Spanish colonies who were not yet citizens with rights equal to the freed-men should be set free. Bolívar and Pétion thus offered the foundation of a truly liberal America in which might be effected by peaceful means that union of the nations towards which Bolívar ever strove. This same dream of a great union of free peoples has been aptly described by the well known Venezuelan writer Carlos Zumeta, the author of *Continente enfermo* [3] as the Babel vision, for he sees in it the reënactment of the biblical myth of the nations of the earth coming together and speaking a single tongue even as it was before the fatal confusion provoked by pride.

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At first the political mould adjusted itself badly to the condition of the nations for whose use it had been cut, in accordance with the fashion plate. The prejudice of a Constitution based on European principles, an organic law laying down fixed rules and *a priori* solutions for the conduct of affairs, did not fit in well with the inferior, vacillating and transitory character of the societies which it had to govern and for which it had been conventionally framed. The inferior character of the population, the rabble which did not deserve the name of people, offered truly a splendid field for the cultivation of obedience, but of a passive and so-to-speak unconscious obedience. The very soil was suited to the acclimatization of despotic militarism, on account of the absence of the sentiment of individuality, the predominance of the collective instincts and race traditions.

Sr. Garcia Calderon aptly describes the situation in these concise words: "A profound legality terminated the revolutionary conquest. The dead, however, continued to exert a powerful influence. For a long time

If today the government of a Garcia Moreno [25], supporting an inquisitorial dogmatism in Ecuador, is no longer possible, still less does anyone presume as did Juarez with Mexico, to attempt to change by force a clerical nation into free-thinkers or to plant lay-despotism where ecclesiastical despotism held sway. Rigidity of formula is not to be wondered at, when the theory of such transformation was wrought out in Mexico by Positivism, whose influence is felt in the mental evolution in all Latin America, especially in that of Brazil and Chile.

In Chile, in spite of the minor success of the religious orthodoxy of the apostle Lagarrigue [26], Positivism completely undermined an extremely conservative society; in Brazil, it may be charged with even more important and fundamental responsibilities for the change of Government. The Republic of Brazil was not, however, as was announced at the time with some appearance of truth, exclusively due to the influence of the doctrines of Auguste Comte [27].

As a matter of fact, this philosophical school developing into a religious system, intervened at the psychological moment to draw away a great number of army officers who were its disciples into association with such disaffected elements as the veterans of the Paraguayan War, offended at official neglect and at the lack of sympathy shown towards their class aspirations; the slave owners, denied any lawful indemnity for the loss of their slaves; besides those ardent propagandists dominated by their ideal, and anxious to see all America united under the same democratic rule.

Doubt, and later, materialistic negation, had prepared the way for the relative supremacy of Positivism shared as it was with that other philosophical system, whose basic expression, Evolution, had a magic sound to the ear, and whose prestige was furthered by the diffusion of Sociology, the Science of modern times in its correlation with the Natural Sciences. The idealistic reaction was, however, bound to come especially when through the deceptive paradoxes of Nietzsche positive ideas practically eventuated in an un-moral Nihilism, which was even more destructive than the bitter Pessimism of Schopenhauer.

Both of these philosophers had many disciples in Latin America. This was due partly to the apparent novelty of their deceptive theories ultimately based, though they were, upon ancient Greek philosophy,—theories which were dangerously seductive and proved to be irresistible to many because of the freedom of their teachings, especially as contrasted with the dogmatic limitations of Positivism. The fascination lent by

success to the German influence from both an economic and intellectual standpoint also accounts in part for the temporary popularity of these two representatives of modern German thought.

In Brazil, it was Tobias Barreto [28], the greatest representative of Germanism in the realm of thought, who about 1880 reformed the teaching of Law, stripping it of the artificiality of its supposed inherent metaphysics, in order to give it the character of a civilizing agency. In spite of its scientific methods of expression, the effect of this intellectual current was to promote the revival of Idealism, which is a preponderant feature of the German temperament, and which we may even say, lies at the base of all European mentality, of which the American is simply a continuation. What has presided over the moral evolution of the New World, if not Idealism? Its intellectual emancipation was determined by ideas of justice, of liberty, of human rights, and of progress, which France sent to it, clothed in a philosophical drapery, to which England gave substantial form in her model development, and which in the Iberian Peninsula, awoke old and slumbering echoes. The religious austerity of the English Pilgrims, the visionary daring of the Spanish conquerors, the highly wrought imagination tinged with melancholy of the Brazilian pioneers,—what were these but so many aspects of Idealism, an hereditary instinct that material demands could not eliminate, but which the hardships of colonial life and the general tendency of subsequent periods had tended to disguise?

The spell of science as the only guide of the spirit having once been broken, it was not strange that in Latin America Fouillée, with his social determinism, Guyau, with his scientific Spiritualism, Bergson, with his new metaphysics, should have become the intellectual idols displacing the old fetishes,—Taine, Renan, Haeckel, the exponents of concrete analysis, of philosophical doubt, and naturalistic synthesis.

The psychological method has been steadily driving out Positivism, the solutions of which do not seem deep enough to satisfy our mental aspirations. The human spirit soars higher, and whether it be because of its peculiar nature, or whether on account of its long upward evolution, it demands more complex analyses, seeks to penetrate more deeply into the secret of things, demands syntheses of a higher nature. Science of itself is not sufficient to satisfy such demands. How then could Poetry be included within its range?

In Brazil we had scientific poetry based upon investigation and inspired by progress, but Love once more holds her place under the source of lyric inspiration. Romance, in its turn, was no longer under the con-

trol of those purely physiological influences with which the Naturalism of Flaubert, Zola and Maupassant, had imbued it, but now based its action more on suggestions which, whether religious or social, in any case, were psychological. The Venezuelan, Diaz Rodriguez [29], and the Brazilian, Coelho Netto [30], for example, who are considered masters of the contemporaneous Latin American novel, may be Realists in their methods, but they certainly are Idealists in their tendencies.

Idealism in Latin America, however, as Garcia Calderon says, has to contend with certain difficulties, commencing with the absence of such Individualism as is found in the Anglo-Saxon (I always mean in such case Anglo-American) who expresses his inner life in a form of conscious thought and action that makes Religion an inner sentiment, rather than an outward show. Moreover, education in Latin America is on a lower level than here among you. Political life is far from possessing the same stability. Economic questions, on the other hand, attain to greater importance; at least there is more of the human in their signification, since there is much less wealth than in the United States, and a much greater distance between rich and poor. Here your rich are richer, but your poor are generally less poor.

Nevertheless, in spite of all this, Idealism still advances amongst us, and at the same time religious sentiment is growing deeper, raising the standard of education, purifying politics, and tending to correct inequalities of fortune. With the aid of intellectual curiosity, which is great, and a no less vigorous power of assimilation, there is no reason why Idealism should be impeded in its program toward settled beliefs, or fail to reach the regions of pure speculation, eliminating the social feature which has so conspicuously permeated constructive philosophy.

The essential nature of Idealism is naturally a desire to soar high, and this desire has taken possession of the Latin American spirit. If its aspirations are so high as to cause a smile, seeing that they are so out of proportion to the means at its command, and altogether out of accord with present conditions, still this very ambition is the best guarantee for its future. A race without ideals is a dying race, destined to servitude, if not to final extinction. This can never be the case with Latin America. She has already acquired a personality of her own, whose literary expression at least in the realm of poetry, is already superior of that of the former mother countries.

The poetry of our lands began by imitating the French, but it has since come to be distinctively American. The following remarks by Blanco Fombona [31] apply as truly to Spanish as to Portuguese America:

"We have given new wings to the old lyric songster, and having broken loose from Peninsular traditions, we no longer dash off album madrigals, hymns to the child Jesus, couplets for blind beggars, hand-kissing ballads, and warlike odes, but sing with as much beauty and individuality as we can the truth of our brain, our heart, our eyes, what we have thought, have felt, have seen. . . . Modernism, as a school, commenced by being an echo of what was foreign, but soon, thanks to our individualistic character, it changed to an accentuation of personalities outside of any common creed, and to a search for and exaltation of truly American themes, at times subjective, expressing the emotion of American hearts, at times objective, studying our nature, our history, the customs of our countries."

I have already called your attention to the fact that side by side with this formation of a political personality with the aid of literature, there was a growing devotion to a Past common to the mother country and the colonies in Spanish America, a worship of the glories of their race.

This characteristic was as honorable as it was peculiar to them, for I have never found even among you or among us Brazilians any national poet celebrating England or Portugal as Santos Chocano exalts Spain in the following lines:

"Tú si eres grande,
España remanesca y luminosa;
tú eres la Fé que al corazon expande;
tú, la Esperanza que en la Fé reposa;
y tú, la Caridad que por doquiera
va prodigando su alma generosa.
Grande fué tu ideal, grande tu ensueño;
tan grande fuiste en la Christiana Era.
Que el mundo antiguo resultó pequeño
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"O Spain! breathing Romance; Spain, gleaming with light;
Faith art thou ever, to clothe hearts with Might;
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LECTURE VI.

Moral integration produced by the fusion of the races, the condition of social equilibrium.—The historic episode of Bolívar and Pétiou.—Disadvantages of inter-marriage, which gives rise to a great difference in ideals.—Political unrest of Latin America, formerly the hope of the European democracy.—Causes of the revolutionary disturbances.—The anarchical and conservative elements in the Iberian societies of the New World.—Bolívar's conception and its realization in Brazil.—Strength of traditionalism.—Historic function of the Brazilian Monarchy.—Federation and the rule of dictators.—Private initiative and the work of education and moralization.—Liberty and tyranny.—Troubles in the evolutionary march of the Peoples across the sea.—Lack of harmony between the theory and practice, between the régime and the people.—The Brazilian oligarchy during the empire and its mission.—Political regeneration through social education and economic development.—Mariano Moreno and Dom John VI.—Industrialism and the emancipation of the people.—Violence and culture.—Qualities, services and glories of Latin America.—The American conscience and Pan-Americanism.—America for humanity.

THE fusion of the races inhabiting Latin America is a forceful factor in that moral integration which represents the fusion of sentiments—an integration deeper and consequently more significant than either political association or literary union, since the former might be actuated by self-interest and the latter be merely the result of a worship of form or love of the beautiful. Race fusion produces a state of social equilibrium which will become stable as soon as differences in education are corrected and reality takes the place today occupied by imagination expressing itself in verbosity. And this same fusion constitutes the basis for a cordial union which, as we have already had occasion to verify, represents a tradition and is one of the best guarantees of the future of these lands of Spanish-Portuguese civilization.

During the colonial period in Brazil, the dominion of the Dutch, which with Pernambuco as its capital comprised an empire extending from the Amazon to the São Francisco, was overthrown and the Portuguese power reëstablished by the joint efforts of the whites, Indians and negroes, who fought in separate regiments, but under the same flag, the same command and with the same object. The regiments of the three races which formed the national population, worked together for the reconquest of the territory, and their chiefs, regardless of their color, were

equally recompensed, honored and ennobled by the government of the mother country [1].

One of the ceremonies attending the celebration of the One Hundredth Anniversary of the Independence of Venezuela was the inauguration of a monument to Alexandre Pétion [2], the negro President of Haiti who did not hesitate to welcome the exiled Bolívar and supply him with vessels, arms, ammunition, provisions, money, and even with a printing-press for the sacred enterprise of emancipating the continent from slavery such as that in which this zealous lover of human liberty had been. The only condition which the precursor of Lincoln imposed upon the emulator of Washington in exchange for his valuable services, was that all those in the Spanish colonies who were not yet citizens with rights equal to the freedmen should be set free. Bolívar and Pétion thus offered the foundation of a truly liberal America in which might be effected by peaceful means that union of the nations towards which Bolívar ever strove. This same dream of a great union of free peoples has been aptly described by the well known Venezuelan writer Carlos Zumeta, the author of *Continente enfermo* [3] as the Babel vision, for he sees in it the reënactment of the biblical myth of the nations of the earth coming together and speaking a single tongue even as it was before the fatal confusion provoked by pride.

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The Constitution, engrafted on the French text, does not reach the soul of the people. Ancient formulas, secular instincts continue, and the power becomes despotic and labor continues to be an inferior occupation. Bachelors of law and of science exercise the power jointly with the chiefs of the army: there is a dynasty of scholars as in the Orient. Wealth increases, thanks to guano and nitrate; life seems easy and free from care; the State plays the part of administrator of fortunes; prodigality increases; the gold mirage disturbs the mental equilibrium. Bankruptcy and the War of the Pacific [6] consummate the previous work of dissolution. The history of half a century is nothing but an unbridled seeking for wealth, amid the instability of things and the ambitious conflicts of men. It is only in the last decade that life changes its aspect, peace becomes final and one notes a more or less clearly defined progress in political and social forms."

Except for the splendor and wealth of Peru and the dramatic incidents connected with its foreign war—periods of great magnificence and great humiliation which were peculiar to this country—the history of the Spanish-American Republics in the past century is singularly alike, apart, of course from the local coloring which distinguishes, for example, an Argentine *gaucho* [7] from a Peruvian aristocrat, or a Chilean *roto* [8] from a Venezuelan *llanero* [9]. The difference of class, the nature of the soil, the diversity of industries, pastoral, mining, agricultural, etc., here as elsewhere served to modify outward appearances, but at bottom the people had the same psychology and an identical conception of the commonwealth (*res publica*).

At first the political mould adjusted itself badly to the condition of the nations for whose use it had been cut, in accordance with the fashion plate. The prejudice of a Constitution based on European principles, an organic law laying down fixed rules and *a priori* solutions for the conduct of affairs, did not fit in well with the inferior, vacillating and transitory character of the societies which it had to govern and for which it had been conventionally framed. The inferior character of the population, the rabble which did not deserve the name of people, offered truly a splendid field for the cultivation of obedience, but of a passive and so-to-speak unconscious obedience. The very soil was suited to the acclimatization of despotic militarism, on account of the absence of the sentiment of individuality, the predominance of the collective instincts and race traditions.

Sr. Garcia Calderon aptly describes the situation in these concise words: "A profound legality terminated the revolutionary conquest. The dead, however, continued to exert a powerful influence. For a long time

the Republic was still but a kind of State socialism. It imposed its will on individual energies for the execution of the reforms undertaken through its strong initiative. The richness of the soil made life easy on account of its abundant yield. The periodical revolutions did not make any changes save in the outward appearance of things. The obscure soul of the people remained unconscious because of its absolute lack of culture and want of vigor."

At a given moment there came a change of scene, for reasons different from those prevailing had provoked a subversive movement. The campaign which, from interested motives, professional agitators were making, was having its effect; their hollow but pernicious phrases were performing their work; the people were being incited to greed; the pseudo-conscience of the political destinies of the country was awakening. Thus for a brief time agitation triumphed over passivity, rebellion over automatism, anarchy over homogeneity. By continuing this contest of tendencies between individuals, some of them half-breeds, and one or the other tendency predominating according as the character of the person expressing it was more nearly like the one or the other original factor, all being subjected to the same influence of culture, Spanish individualism was reborn in the same "excess of movement" which, in the felicitous words of a Castilian writer, transferring action to the literary field, produced the theater of Calderon, Lope de Vega and Tirso de Molina.

Bolívar, with the farsightedness of his genius, foresaw the political disorder resulting from a social confusion which found active expression in an army governed by ambitious military leaders who wished to transform it into a Praetorian guard, and passive expression in a population in reality divided into castes, although theoretically equal by the declaration of a common sovereignty. Hence it was his idea to give the greatest prestige to the conservative element, which had become neutral by force of circumstances and showed a tendency to disappear in the abyss of the successive disturbances of the public order. These ideas of his are invariably reflected throughout all the constructive phases of his public life, from the suggestion, made to the constituent Congresses of Colombia, of 1819 and 1821, of the creation of an hereditary Senate and moral power, to the incorporation in the project of the Bolivian Constitution of 1826 of an irresponsible president elected for life, and of a third chamber composed of censors likewise holding their positions for life. The functions of such an assembly would be to protect the national culture, guard morality and the Constitution, collaborate in the public treaties, and choose the judges and ecclesiastical dignitaries from triple lists submitted by the Senate. Thus in it would reside the moderating power.

The Brazilian Empire, with its constitutional sovereign, its dynasty acclaimed by the people, its Senate elected for life and composed of the finest men of the country, the spirit of its administration, at once conservative and liberal, largely and wisely realized the ideas of Bolívar, which were chimerical in view of their falsely democratic environment as well as the personal reluctance of the great man to wear the trappings as well as the attributes of the dictator. Moreover, the maintenance on the throne of the traditional dynasty representing the Portuguese past, whose heir, however, identified himself with the new destinies of the country and even made himself the decisive agent of its independence, not only removed the crown of Brazil from the conflict of ambitions, but gave the national traditions a strength and importance unique, compared with what occurred in the neighboring countries of the new Spanish world. The revolutions of which Brazil was the theater during the first reign and the Regency represented, therefore, ideas, although expressed by passions, rather than the greed of power. For many reasons, the Brazilian monarchy in the nineteenth century may be said to have been the political régime truly suited to the social status of Latin America.

Traditionalism, which if not a stronger sentiment, at least is more in evidence among us than it is among you; which strikes its roots, if not in a richer, at least in a more dramatic legendary and heroic past than yours, and which is reflected especially in picturesque and charming cities, breathing an incomparable perfume of things gone by, such as Lima in Peru and Ouro Preto [10] in Brazil, the only ones of their kind in America, is naturally strengthened under such a régime and becomes capable of developing a great power of resistance to the destroying instincts of the lower strata of society. This was the case with the Empire of Brazil which yielded to the revolutionary shock and dissolved itself politically, preserving, however, its structure, which in this case was its moral wholeness.

The monarchy of Brazil fully realized its function as protector of the rights and privileges of the uncultivated and therefore powerless masses, who intrusted themselves to it in order not to be despoiled and tortured by intriguing and pitiless oligarchies which were shortsighted and actuated by the most selfish motives. Thus it was that it succeeded in representing, in Latin America, domestic peace and liberty at a time when a condition of anarchy prevailed in nearly all the rest of the continent. That which the Caesarism of Bolívar failed to attain, owing to his repugnance to what a Venezuelan author calls the liberty-destroying temptation, a repugnance which we have seen was largely the fruit of his own

worship of his glory as a Liberator, the Empire of Dom Pedro accomplished completely. The unity of Brazil came out triumphant from the test, in striking contrast to the fiasco of the attempted organization of a great Spanish American nation or confederation, a fiasco all the more felt since as Señor Blanco Fombona [11], the Venezuelan author, well says, the small countries are the heel of Achilles of Spanish America.

But from the splendid dream of Bolívar, which only could have been realized under a monarchy, as the example of Portuguese America proves, there was born that noble inspiration of the Congress of Panama, already mentioned, in which arbitration was outlined as the supreme principle of American Public Law. This moral result amply redeems its political failure.

In South America, after it had become independent and had been freed also from its Napoleons in perspective—for as you know one of them, San Martín, had retired, worn out, to Boulogne in France, and the other, exhausted and profoundly disillusioned, died at an early age at Santa Marta in Colombia—there began to have great vogue a political expression borrowed from your constitutional organization—the principle of Federalism. Only in unified Brazil, however, did this principle correspond to the legitimate aspiration of those honestly opposed to the contrary doctrine of centralization, unless, of course, one associates this sentiment of particularism with the reaction against Bolívar's plans of dominion, a reaction by means of which Páez [12] separated Venezuela from Great Colombia, and Santander [13] had recourse to abuses of power in the very year of the Liberator's death.

This same principle of federalism, in whose name Rosas [14] tyrannized over Argentina, and in opposition to which Portales [15] modeled Chile, runs like a red thread through the political history of Latin America. Federalism and centralization, however, did nothing more than justify the same disorders and the same violent acts. What remained at bottom was individualism under the picturesque garb of the military dictatorship which served to conceal it [16]. And this dictatorship (*caudillismo*) we see now imbued with a primitive rural democracy, crude and cruel, such as was that of Rosas in Argentina; now with pretensions to splendor and colonial chivalry, as was that of Castilla [17] in Peru; now solitary and ascetic, as was that of Francia [18] in Paraguay; now wildly extravagant and grotesque as was that of Santa Anna [19] in Mexico; now polished and fond of protocol, as was that of Guzmán Blanco [20] in Venezuela; now brutal and intoxicated, as was that of Melgarejo [21] in Bolivia; now tinged with religious mysticism, as was that

of Garcia Moreno [22] in Ecuador; now progressive and businesslike, as was that of Porfirio Diaz in Mexico. Blanco Fombona thus admirably sums up the situation: "The *cacique* rules, and over him frequently the pettifogger, the charlatan, whom the bearded chief admires and the illiterate people applaud."

To talk of federalism where the individual element is everything seems one of the most absurd things in the world, for individualism in such cases unites much better with centralization, a moderate or tyrannical expression of order, while federalism, once stripped of its ideal or traditional meaning, is nothing more than the flag of disorder. In imperial Brazil, the alternative of the historical cadence required that the federalist aspiration should correspond to particularism, which had been the basis of the administrative organization of the colony. In the Spanish-American republics, decentralization seemed to some the condition, to others the corrective for that which, although mitigated by the Revolution, was the political régime of these countries until time and such factors as the development of the public wealth, the diffusion of culture and the formation of an eminent minority of strong thinkers began to exercise their influence.²

When George Clemenceau, the distinguished French statesman, made his brief visit to the east coast of South America, he was not long in discovering the faults and virtues of the political societies with which he came in contact, and in which he discovered, moreover, the environment where the Latin spirit will in future shine with an ardent flame. In referring to the incapacity of the electoral body of these countries to organize the defense of the general interest against the coalitions of private interests, the writer says that he rejoiced for Argentina that abuses such as those which in greater or lesser degree are found in the old countries, and whose surest remedy consists in the development of private energies, should have been able to have aroused in that young society such manifestations of conscience and will as those he found there. And the veteran parliamentarian, whose principal fault is certainly not want of energy, adds the following commentary, full of consolation and hope: "A country, whatever may be its form of government, is strong only through its men, that is, through the sum total of its disinterested energies. Now a people capable of producing men of the intelligence and character of those I frequently met with during my trip, can confidently face the problems of the future" [23].

² These factors are admirably brought out by Blanco Fombona in his lectures given at Madrid, already cited.

The War of Independence had left the ancient Spanish American Empire in a pitiful state of devastation. It was necessary for it to reconstruct its sources of wealth, and to create new ones in order to meet its responsibilities. The protracted struggle had left it also owing to the lack of popular instruction with the worst of anarchies, an anarchy without culture, as the foundation of the national representation, which was sovereignty only in name. As a part of the same blighting heritage were those habits of public dishonesty which, frequent under the mother country's rule, were propagated among the new rulers in spite of the denunciations and oburgations of the publicists who from force of circumstances embodied the *moral power* which Bolívar dreamed of making the axis of his constitutional organization.

All the half-realized work of educating and moralizing the people, which is and must be the formula necessary to maintain Latin America's autonomy, was perhaps greater than that of the conquest or of that of the independence, because it had to contend with a stronger feature of the local past.

This new Latin American world was called suddenly without the elements necessary for readjustments to the responsibilities and dignity of international life. Need we wonder then that the newly acquired political liberty ushered in a period of social chaos. And yet from this same chaotic mass there was loosed a constellation of nations guided by principles not only of liberty, which ill-understood and worse applied had produced that chaos, but also of authority, without which societies wreck entirely and end with dissolution. Now just as liberty easily runs the risk of degenerating into anarchy, authority without moral curbs which guarantee legal curbs, borders generally on despotism: hence the wild oscillation of the magnetic needle between the quadrants as if it could not find its direction under the action of native and foreign influences. And if the native influences spoke of subjection and of revolt, the foreign ones in the nineteenth century were more than ever disposed to revolt and reaction.

Thus we see public instruction made gratuitous and compulsory in societies where the leaders of the movement were entirely lacking in culture and where the necessary number of teachers were sought in vain; we see the Church deprived by law of its privileges in countries such as Mexico, where it owned, according to Humboldt, four-fifths, and, according to the historian Lucas Alaman [24], one half of the property of the country, valued at 300 millions of dollars; and we see the death penalty for political crimes abolished, and the guarantee of individual rights "raised to the highest limits to which philosophy has aspired," in countries

where each year generals were shot for the crime of sedition and citizens were imprisoned for the crime of expressing their opinions. The great defect of the Spanish American Republics—and Brazil has gravitated toward this planetary system—was the lack of harmony between theory and practice, and the resulting want of balance between the abstract and concrete. The intermarriage of the races, which characterized the Iberian colonization across the sea, is chiefly responsible for this result. The Anglo-Saxon population which was transplanted to North America and there propagated itself, was and continues to be fundamentally the same people as that of the mother country, and consequently their institutions are the same and fit to them. When fusion occurred, it was with elements of the same race; not so in the rest of the continent, where mating was effected with inferior elements, for we have seen that if there are no inferior races, there are at least inferior peoples.

These peoples were indeed without cultivation and preparation, incapable collectively of adapting themselves quickly to different and higher conditions of culture, although not so individually, for I have already had occasion to call your attention to Juarez. This pure-blooded Indian appears to us as a born legislator, a theoretical statesman, a political constructor of imagination, saturated with liberal ideas. He possessed moreover the faculty of vision in a high degree and, in the opinion of one of your writers, was lacking only in executive ability.

On the whole, the Indians of Mexico, as well as those of Bolivia, the half-breeds of Venezuela like those of Brazil, were as far from representative governments once they had gained possession of it, as were our Tupis [25], whose women prepared the buccan meat [26] for the festivities of cannibalism, or as the Aztecs, whose priests, Bernal Diaz [27] tells us, oiled their hair with the blood of human sacrifices. One can calculate the mad *farandole* which such a multitude would dance when invested in the twinkling of an eye with the attributes of sovereignty, like the people who met in the public square of Athens to discuss the affairs of the Republic, or which gathers in the Helvetian cantons to decide by *referendum* some important matter for the community.

Infinitely more *representative* of such a social state was the colonial government, whose defect consisted in being at different points refractory to progress, rather I should say in offering difficulties to the march of evolution—a forward movement which may not with impunity be opposed. The political oligarchy of the Brazilian Empire, without having this defect, was highly *representative*. It was represented by a Senate whose members were limited in number and held the position for life,

and were chosen by the sovereign from triple lists made up of the names of those receiving the most votes. It was this assembly which, under the influence of the monarch—an influence exercised in fostering progress rather than moderating it—directed the destinies of the country during a period which was a model one for Latin America in the nineteenth century, a period of domestic peace, economic posterity and liberal ideas.

This oligarchy appears so little the enemy of progress that in sixty-three years—the Imperial Constitution went into effect in 1826—it left fully resolved, without the least disturbance of the public order, the fearful problem of the emancipation of the slaves which involved so many interests and resentments; it left on the way to solution the federative problem by an extended decentralization of the administration, established since 1834, as a necessary concession to the particularist tendencies; it left in application an ample foreign immigration system which will renew the population of the country, and whose effect is already so apparent that one of our most remarkable national writers already sees in Brazil a marked contrast between the country traditionally Portuguese and the cosmopolitan country where a new ethical and social type is being formed;^{*} it left implanted in the soul of the people the principles of political and religious tolerance and of international generosity which have not failed to continue in the new Brazil.

Latin American progress is more pronounced in countries where, as in Brazil, a régime of order and of liberty was early established, or where, as in Argentina and Chile, the proportion of intermarriages was notably less, especially with the negro element, which was lower in the social scale, more subservient in slavery and consequently more debasing as a factor. On the other hand, the Araucanians [28], a fighting and almost indomitable race of Chile, entered largely into the composition of the warlike and stout-hearted temperament of the Chilian people.

Progress is always greater and more rapid where the white factor predominates, even in an atmosphere of disorder. The same is true where the system of government is more liberal, and, besides, more suited to the conditions of the environment, filling up with a restricted but intensive culture, the void caused by the lack of a general or extensive culture.

In the Argentine Republic the era of the periodical and fatal revolutions lasted until the war with Paraguay [29]. This condition was due to the want of education of the native element, which was commonly crude and nomadic in character, and in open conflict with the group of doctrinaires. That era, however, marked the beginning of the wonderful eco-

^{*} José Verissimo, *Impressões do Sul*.

nomie and intellectual development of a land destined to have an extraordinary future.

How otherwise would it have been possible to bring the *gauchos*, contemporaneous with Independence, skillful cavaliers and cow-boys, given up to a life of mere vegetation on the Pampas deserts where the first great herds of cattle were bred, to a reasoned understanding of the principles of representative government which Mariano Moreno [30], certainly the most advanced and perhaps the most lucid mind of the first generation of public men of Argentina, summarized in his *Representación de los hacendados*, which in substance corresponds to the speeches of your Patrick Henry and the pamphlets of your Thomas Paine?

How is it possible to harmonize that unformed pastoral and native civilization, so different from the refined rural and cosmopolitan civilization of today, with this statement of democratic doctrine, which was based on the subordination of the government and of the laws to the interest and the will of the people and on the intervention of the latter in political affairs?

Mariano Moreno had suggested the answer to this great problem of the *Hacendados*—the producing and property owning classes—when they protested against the attitude of the *Cabildo* and Consulate of Buenos Aires in their refusal to sanction the opening of the River Plate to British commerce. It seems that the *Cabildo* and Consulate had been short-sighted enough to oppose the decision of the Viceroy Cisneros who had been sent by the Central Junta of Seville to settle local disputes and had thrown open the commerce of the River Plate to the English. This measure was not only contrary to the old Spanish ideas of exclusion, but it was all the more reasonable at this time since the English, as allies of Spain in the war against Napoleon, were already holding undisputed sway over the sea.

This same enlightened policy of commercial freedom appeared also in Portuguese America. Animated by this double motive of friendship and policy, the Portuguese Court, which had been established at Rio de Janeiro since 1808, had declared, soon after it had passed Bahia, the first Brazilian land sighted, the opening of the ports of the colony to the commerce of the world. Dom John VI and Mariano Moreno both saw the need for economic expansion of lands which were going to enter upon a new and different political life, and estimated the possibilities of such expansion. They scented modern industrialism, a term which sums up all our material, utilitarian and progressive civilization. Such a régime unquestionably offers decided advantages. It may arouse attacks because of its

In Brazil during colonial times, also, adventures were not wanting and the tendencies were equally violent, as our sixteenth, seventeenth and eighteenth centuries, and, later, the agitated times of the first reign and of the regency prove, but an efficient political organization through the use of authority, and particularly a prestige superior to the ambitions of the guerilla leaders, ended by establishing peace and creating a milder tradition which is endeavoring to continue. This influence, although not perfect, was highly beneficial: it made us take the lead in the open road of progress, in which other Latin-American countries, particularly the Argentine Republic, have caught up with us in recent times, thanks to the wonderful realization of her economic possibilities.

Violence therefore is yielding daily the first place to culture, or rather culture, which at no time was unknown among the Iberian societies of the New World, is gradually recovering the position which belongs to it, and from which first the physical struggle for existence, later race struggles, and finally political struggles in the name of imported and ill-acclimated principles had removed it. Everything, moreover, favors such an improvement: European immigration which will increase constantly, however great may be the obstacles placed in its way, for the hope of obtaining easier living conditions must always be a decoy for those who struggle with difficulties; the development of communications which will inevitably transform the desert of ignorance, albeit possessing some intellectual oases, into a fruitful and cultivated plain on which shall grow in great luxuriance the tree of knowledge, beneath whose shade certain harmful weeds which distinguished the revolutionary flora and cast the greatest discredit upon the entire continent, do not thrive.

With the increase in population, with greater facilities of communication, with all that, which, in fine, characterizes modern life will tend to disappear that comparative but real isolation in which the Latin American countries have lived with respect to one another, making difficult the interchange of ideas. The same tendencies will destroy within each of those nations that social isolation of the different classes or the different elements of the population, a situation caused by the great distances between the centers of population, by the climate, by the aspect of nature itself—steep mountains, wild forests, and swiftly-flowing streams.

The change will give place not only to a national conscience, which is still lacking, but to an American conscience, for much talking about it does not make it a reality. The national conscience will come into being as soon as the new feudalism, as Blanco Fombona calls it, the feudalism of the local *caciques*, woven in a rough political loom, gives way to a régime of public opinion and fair elections which will remedy the lack of liberty

which still characterizes some of these so-called democratic societies, and will inaugurate for all time an era of independent and fearless criticism. As the Venezuelan author already cited justly says, relief by the pen in a country enjoying a free press, frequently avoids relief by a revolution, when war is the only recourse against tyranny.

Latin America has frequently been admonished and censured as it deserves, but it has also as frequently been treated with excessive severity, and at times cruelly ridiculed and even maliciously slandered. Thus, the ignorance of the great majority of its population is not peculiar to it alone; in order to rival in this respect the more backward countries of Europe it only lacks the counterpoise of a traditional authority, strong in its military arrogance or in its administrative despotism.

Its indolence is a myth: M. Clemenceau was astonished to see how they work in Brazil, and if he made this observation about Brazil rather than Argentina or Uruguay, it was because he took into consideration the tropical climate. The distinguished French statesman expected to find the people half asleep and was greatly surprised on learning that no one even takes a siesta [34].

The so-much-talked-of wars and revolutions, which moreover are not unknown in the other continents, as the spectacle of every day proves, do not fail to show in the final analysis weighty and lofty motives; they do not come solely from a disease which has been unjustly called Iberian, or from social parasitism, by virtue of which the strong try to live at the exclusive expense of the weak.

Oppression and exploitation constitute up to a certain point the sad inheritance of a past which is far from being exclusive to us: they are features moreover which have been gradually disappearing. From the contest between the conservative and the racial tendencies, between the reactionary and the liberal forces, there has resulted here as everywhere, political and social progress, real and not apparent only.

Real and not apparent, too, is that profound, if not vast intellectual movement which is seen in Latin America and of which its conquests in the scientific, juridical and literary field are testimony.

At the Hague Conference—and I cite this in particular because it was so to speak a parliament of nations and the most important international meeting of recent times—the juridical culture of the new Spanish-Portuguese World was a revelation to many European jurists and statesmen, who did not count upon finding so much erudition, albeit disclosed in a perfectly natural manner and without betraying any effort, among a people with whom the public mind has associated the defects of intellectual negligence and revolutionary delirium.

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Thus it was that we saw Brazil upholding with persuasive eloquence the juridical equality of the nations; Colombia defending the humanization of war, and Argentina go so far as to obtain that the employment of force for the collection of international debts should be condemned. Ruy Barbosa [35], Perez Triana [36], and Luiz Drago [37] were the exponents, whether of the knowledge, or of human sympathy, or of political sense, of their respective countries. And not only this; tradition exerted its influence there as usual. It was the past which once more affirmed itself in its unbroken continuity, adjoining the present.

Of Latin American scientific progress I could cite a great many instances, and would do so if it were not for your incomparable development, which necessarily makes all other achievements of the same kind appear mean by the side of them.

However, as regards Brazil, the sanitation of a city of nearly a million inhabitants like Rio de Janeiro, which is today free from the yellow fever which desolated and discredited it, constitutes a work of extraordinary scientific and social importance, and the magnificent work of the Oswaldo Cruz Laboratory [38] in connection with various endemic diseases of the country is a most creditable testimony to competence and perseverance—words which are not often employed in reference to South America, where science has been treated as bookish, literature as verbose and art as superfluous.

I am well aware that the foundation of this high state of culture is still far from being solid and adequate. The masses among us need to be educated as well as instructed. The proportion of illiterates is painfully large, in spite of the diffusion of the schools, for in this direction not a little has been done. The school system of the Argentine Republic is an honor to the country: Sarmiento was the best of the disciples of Horace Mann [39]. Rural education is being carried on successfully in Uruguay; in Chile, technical education is a reality, and in Brazil, professional education, particularly agricultural instruction, is being widely disseminated.

This is indeed the fundamental task which should occupy us; the cupola of the magnificent edifice whose foundations were laid by Columbus, Vesputius, Cabral, Cortez, Pizarro, Nuñez de Balboa, and so many other navigators and conquerors, must be the budding of the aforesaid *American conscience*.

Such a sentiment, however, cannot well harmonize, as some lightly advocate, with the establishment of a protectorate of a part of America over the other part; in order to flourish and prosper, it must strike its roots deep down in the layer where the responsibilities and rights are declared equal for all the nations of the continent.

Spanish America, in spite of its political fragmentation and the intellectual particularism of the nationalities into which it is divided, does not fail to form, up to a certain point and under different aspects, a moral whole. Among the nations comprising it, there exist, besides identity of origin, so many features of similarity, the offspring of their close relationship, that they cannot be considered isolated. They constitute a latent, or perhaps it would be better to say a spontaneous confederation, it being possible to separate them and even to set them against one another, but it is not equally possible to differentiate and integrate each one of them, for they have a common soul. The best part of Bolívar's work was his American conception; it was the dike he aimed to set up against a nationalism which had not yet been formed and only afterward was gradually organized.

The filiation and evolution of Portuguese America are separate from those of Spanish America; not infrequently, nay frequently rather, was this evolution hostile to that of Spanish America: but today they have common, identical interests, and a desire for a closer approximation appears so reciprocal that this movement becomes every day more pronounced and more firmly rooted. For Pan-Americanism to be complete, it would be necessary for the United States to ally itself with Latin America, with the importance, the influence, the prestige, the superiority to which its civilization entitles it—it would not be human to do otherwise—but without any thought, expressed or reserved, of direct predominance, which offends the weaker element and renders it suspicious [40].

It is this which those who, like myself, know and esteem the United States—and the best way of showing one's esteem is not by praising unreservedly—are hoping will come as the result of the great university movement which is gradually crystallizing in this country, where idealism is a feature of the race (nor would you without it belong to a superior race), an ideal so noble and elevated as that of respect for the rights of others, as that of human solidarity through the unification of culture. The great statesman [41] who now presides over the destinies of the Argentine Republic, proclaimed at the First Pan-American Conference, at Washington, that America belonged to all humanity, not to a fraction of it; and indeed America is and will continue to be more and more the field for the employment of European capital, of study for European scholars, of commerce for European merchants, of activity for European immigrants. Only thus will the New World fulfil its historical and social mission and redeem the debt contracted with Europe, which has given it its civilization.

NOTES ON LECTURE I.

1. GUATEMOTZIN.—Last ruler of the Aztecs. He was born about 1494 and died in 1525. After the death of his uncle Montezuma, he was elected to the position of "chief of men" by the tribal council in September, 1520. From May to August, 1521, he heroically defended Tenochtitlan, or Mexico City, against the Spaniards commanded by Cortez. On August 13, 1521, he was captured and in violation of the promise of Cortez was put to torture in the vain hope that he would reveal the hiding place of the treasures of the Aztecs. Subsequently he was forced to accompany Cortez to Honduras, but on the way was accused of treachery and hanged. He is regarded by the Mexicans as one of their national heroes, and his statue occupies a prominent place on the beautiful Alameda of Mexico City. Cf. Prescott, *Conquest of Mexico*, passim.

2. ATAHUALPA.—Inca ruler of Peru. He was the son of the Inca Huayna Capac, and was born about 1495. On the death of his father the Inca realm was divided between himself and his brother Huascar. In the quarrel which ensued between the brothers Huascar was defeated and Atahualpa's authority was acknowledged throughout the greater part of Peru. He had set out from Quito to be crowned at Cutzo when he met Pizarro and his soldiers at Caxamarca (November, 1532). Here he was treacherously seized by the Spaniards, many of his followers being massacred. Though he subsequently gathered together a ransom equal in value to fifteen million dollars, he was tried and put to death by Pizarro (August 29, 1533). Cf. Prescott, *Conquest of Peru*, book I, chs. ii-vii, and Fiske, *Discovery of America*, vol. II, ch. x.

3. Minas Geraes (lit. "General Mines").—One of the great interior states of Brazil, famous, especially during the eighteenth century, for its gold and diamond mines. The former capital, Ouro Preto (lit. "Black Gold"), is historically perhaps the most interesting city in Brazil. Area of the state, 222,160 square miles; population (estimate) 5,000,000. Statistics relative to the production of gold and silver during the colonial period are given in A. G. Keller, *Colonization*, (New York, 1908), pp. 165-167.

4. BERNAL DIAZ DEL CASTILLO.—Born in Medina del Campo about 1498; died in Nicaragua about 1593. Famous *Conquistador* and chron-

icler of the Conquest of Mexico. His work, the *Historia verdadera de la Conquista de la Nueva España*, though written in the simple unaffected style of a common soldier, remains one of the standard authorities for the conquest of Mexico. The best English edition of his work is that of A. P. Maudsley, in the Publications of the Hakluyt Society, series II, vols. XXIII-XXIV. A full discussion of the man and his work will be found in Prescott, *Conquest of Mexico*, in a long note at the end of ch. viii of book V.

5. JOSÉ MARIA DE HEREDIA (1842-1905).—A French poet and the modern master of the French sonnet. His most famous sonnets, together with a few longer poems, were published under the title of *Les Trophées* in 1893. The translation of the work of Diaz del Castillo appeared in 1881.

6. Manchineel tree.—A tree, *Hippomane Mancinella*, of moderate size, found in the West Indies, Central America and Florida. It abounds in a white, milky, poisonous sap, the virulence of which has been exaggerated. The formerly widespread belief that even the shade of the manchineel tree was of deadly effect is now relegated to the domain of legend.

7. LAS CASAS, BARTHOLOMÉ DE (1474-1566).—Known to posterity as the "Apostle of the Indies." During his long life, of which a great part was spent in America, he labored unremittingly to secure protection of the Indians against the rapacity of the Spanish conquerors. It was largely through his efforts that Indian slavery was legally abolished in Spanish America. His chief works are: *Brevissima relación de la destrucción de las Indias*, ("Destruction of the Indies," Seville, 1552), and *Historia de las Indias* (published 1875 but well known before by manuscript copies). The standard biography in English of Las Casas is that by F. A. McNutt (2 vols., New York, 1909). A remarkable appreciation of Las Casas and his work is given by Fiske in his *Discovery of America*, vol. II, ch. xi.

8. ANCHIETA, JOSÉ DE (1533-1597).—A famous Jesuit missionary, sometimes known as the "Apostle of Brazil." He was born in 1533 on the island of Teneriffe, studied at the University of Coimbra, and at the age of seventeen entered the Jesuit order. In 1553 he went as missionary to Brazil, and for the next forty-four years he labored unremittingly for the conversion and protection of the Indians. He was a scholar as well as a missionary, his *Arte de grammatica da lingua mais usada na costa do Brazil*, (Coimbra, 1595), being one of the first works on the Indian languages of Brazil. Anchieta is rightly regarded as one of the heroic figures in the history of Portuguese America.

9. PORTOCARRERO, DON MELCHOR.—Third Count of Monclova, Viceroy of Peru from 1689 to 1705. He was the last viceroy appointed during the period of the Austrian dynasty.

10. Caciques.—Originally a prince or chief among the Indians of Spanish America; later applied to the Indian officials placed over Indian villages. The term "cacique" is the Spanish form of an Haytian word meaning "chief."

11. *Ethiope resgatado*.—In 1750 a Portuguese priest, Father Manoel Ribeiro Rocha, published a work dealing with the question of negro slavery. In this work Father Rocha maintained that it is not lawful to hold negroes as merchandise, but only as a pledge (*jure pignoris*) for the performance of services equivalent to the slave's money value, on the completion of which services the slave is to be "redeemed," i. e., allowed to go free. Cf. Agostinho Marques Perdigao Malheiro, *A Escravidão no Brasil*, (Rio de Janeiro, 1867), vol. II, p. 79.

12. POMBAL, SEBASTIÃO JOSÉ CARVALLIO DE MELLO, Marquis of (1699-1782).—The famous reforming minister of King Joseph I of Portugal. The effect of his sweeping changes and reforms was not confined to Portugal. As regards Brazil he not only expelled the Jesuits but curbed the power of other religious establishments, alleviated the lot of the Jews, liberated the Indians, and promoted industry and commerce. On this subject cf. R. G. Watson, *Spanish and Portuguese South America during the Colonial Period*, (London, 1884), vol. II, pp. 238-239.

13. FERDINAND VII of Spain.—Held "prisoner" by Napoleon in the castle of Valençay from 1808 to 1814. During the Spanish American Wars of Independence many of the revolutionists employed their loudly proclaimed loyalty to Ferdinand VII as a convenient pretext for overthrowing the vice-regal authority.

14. LABOULAYE, EDWARD RENÉ LEFÈVRE DE (1811-1883).—The well known French jurist, historian and politician. The statement referred to by Dr. Lima is found in his *Histoire politique des Etats Unis*, (Paris, 1855-1866).

15. Araucanians.—A tribal group of Indians inhabiting portions of Chile south of the Bio-Bio river. They are the most tough-fibred and warlike of all the South American Indians. They were never conquered by the Incas, long offered effective resistance to the Spaniards of colonial Chile, and have been only partially assimilated by the Chilians of today. The so called "rotos," who form the bulk of the lower classes of Chile, are of mixed Spanish and Araucanian stock. An illuminating discussion

of the peculiar political formation of modern Chile may be found in the article by Professor P. S. Reinsch entitled "Parliamentary Government in Chile," in the *American Political Science Review*, vol. III, pp. 507-539, (1909).

16. Battle of Carabobo.—A decisive battle fought on June 27, 1821, between Bolívar and the Spanish General La Torre, resulting in the independence of northwestern South America. On this occasion the nine hundred Englishmen comprising the British Legion played an important part. An interesting account of this battle, with a description of its site, is given by Professor Hiram Bingham in the appendix to his work *Diary of an Expedition across Venezuela and Colombia*, (New Haven, 1909).

17. In the expression "from Ávila to Potosí," the Ávila referred to is not, of course, the city of Spain of this name, but a mountain called Ávila rising above Caracas, the capital of Venezuela. Potosí is the well known mining center of Bolivia.

18. JUAN and ULLOA.—An interesting analysis of those portions of the "Noticias Secretas" which deal with the abuses practiced by the Spanish authorities on the Indians is given in chapter viii of Professor Bernard Moses' *South America on the Eve of Emancipation*, (New York and London, 1908). In addition to their secret report in the Indies, (published in English in London in 1826), Juan and Ulloa published *Relación histórica del viaje á la America meridional* (2 vols. 1748: the English in Pinkerton's Travels, vol. IV); and Juan alone, *Noticias americanas* (1772).

19. LA CONDAMINE, CHARLES MARIE DE (1701-1774).—In company with Godin and Bouguer this noted French scientist conducted an expedition to South America in 1735 to measure an arc of the meridian on the plane of Quito. He subsequently separated from the rest of his party and undertook the first scientific exploration of the Amazon. His most important work dealing with South America is his *Relation abrégée d'un voyage fait dans l'intérieur de l'Amérique méridionale*, (Paris, 1745). He is said to have carried the first knowledge of India rubber to Europe.

20. CHARLES III.—King of Spain from 1759 to 1788. He was the most enlightened and progressive ruler of the Spanish branch of the Bourbon family, and was responsible for many reforms both in Spain and Spanish America. The standard biography of Charles III is that of M. F. Rousseau, *Le Règne de Carlos III d'Espagne*, (2 vols., Paris, 1907).

21. DEPONS, FRANÇOIS RAYMOND JOSEPH DE.—*Voyage à la partie orientale de la Terre Ferme dans l'Amérique Méridionale fait pendant*

les années 1801-1804, (Paris, 1806). An English translation of this work (attributed to Washington Irving) appeared in New York in 1806.

22. These lectures of Señor Rufino Blanco Fombona were given in Madrid under the auspices of the Unión Ibero-America, on June 16 and 23, 1911. They were published at Madrid the same year under the title, *La Evolución política y social de Hispano-America*.

23. JUAREZ, BENITO (1806-1872).—The famous Mexican statesman and patriot, president of the republic during the critical period from 1858 to 1871. Juarez' two great triumphs were his victory over the clerical and reactionary party, resulting in the ultra-liberal constitution of 1859, and the overthrow of the empire of Maximilian supported by Napoleon III. The most satisfactory biography of Juarez is that by U. R. Burke, *Life of Benito Juarez*, (London, 1907).

24. ALTAMIRANO, IGNACIO MANUEL (1835-1893).—A Mexican poet, orator and statesman, of pure Aztec blood, said to have been a descendant of the Aztec rulers of Mexico. He participated in the War of Reform, aided President Juarez during the French Intervention, and was a partner in the glory of the reestablished republic. Subsequently he represented Mexico in Europe, being at various times Consul-General to both Spain and France. Of his numerous literary productions the most famous is perhaps his *Paisajes y Leyendas*, (Mexico, 1884). A brief biography of Altamirano, with English translations of excerpts from his writings, may be found in Professor Frederick Starr's *Readings from Modern Mexican Authors*, (Chicago, 1904).

25. HOMAIS.—In this character Flaubert has portrayed with consummate skill the type of village apothecary whose naïve provincialism is equalled only by his rabid anti-clericalism.

26. Carbonario regicide.—The reference here is of course to the secret society of radical republicans who were in part responsible for the assassination of King Carlos of Portugal in 1908. Later the "Carbonarios" were instrumental in bringing about the overthrow of the monarchy, and at the present time are charged with exercising an undue influence in the affairs of the Portuguese Republic.

27. Cf. *O Congresso Universal das Raças Apresiasiões e Commentarios* pel Dr. J. B. de Lacerda, (Rio de Janeiro, 1911).

28. Guipuzcoa Company.—A brief, but excellent account of the activity of the *Compañia Guipuzcoana* is given in Professor Bernard Moses' *Establishment of Spanish Rule in America*. (New York, 1898), pp. 166-171.

29. VIEIRA, ANTONIO.—Born at Lisbon in 1608; died at Bahia, Bra-

zil, in 1697. A celebrated Portuguese missionary, pulpit orator, author and publicist. He was taken to Bahia as a child, and entered the Jesuit order there in 1625. As a preacher he soon became famous for his eloquence; after his return to Portugal, in 1641, he was loaded with honors by King John IV, being intrusted with important diplomatic missions to Paris, The Hague and Rome. In 1652 he was placed in charge of the Jesuit missions at Maranhão, and soon drew upon himself the hatred of the slave-owning colonists through his efforts to protect the Indians. From then on he became the champion of the oppressed Indians, pleading their cause both in Brazil and Portugal with a courage and fervor worthy of Las Casas. Vieira was not only interested in the spiritual and economic welfare of Brazil, but in Portuguese letters as well, and his many literary productions entitle him to a place among the peers of Brazilian prose writers. An account of Vieira's activities in Brazil and Portugal may be found in Watson, *Spanish and Portuguese South America during the Colonial Period*, (London, 1884), and in Southey, *History of Brazil*, (3 vols., London, 1822).

30. An account of the Pará-Maranhão Company is given in Watson, II, pp. 238-239.

31. Dr. Lima here refers to the seventeenth Congress of Americanists, which met at Buenos Aires in May, 1910. Of Señor Quesada's literary productions the best known are: *El Vireinato del Rio de la Plata, 1776-1810*, (Buenos Aires); *Recuerdos de mi vida diplomática*, (Buenos Aires); *Mis memorias diplomáticas*, (Buenos Aires).

32. See note following.

33. NARIÑO, ANTONIO (1765-1823).—A New-Granadan patriot. Though he held important offices under the Spanish viceroys, he was an ardent champion of Spanish American independence, and in 1795 published at Bogota a Spanish translation of the *Droits des hommes*. For this he was imprisoned, and did not obtain his release until 1810. On the outbreak of the Revolution he played a conspicuous part in the liberation of New Granada from Spain, but was captured by the Royalists in 1814, and was confined as a prisoner in Spain until 1820. After his return to New Granada he was elected vice-president and senator of the republic.

34. The Jesuit Order was expelled from Portugal in 1759.

NOTES ON LECTURE II.

1. The Plateau of Cundinamarca occupies a portion of the eastern central part of the Republic of Colombia. It was formerly the seat of the civilization of the Chibchas; at the present time the name is applied to the department having Bogotá as its capital.

2. GAMA, JOSÉ BASILIO DA.—Born at San José, Minas Geraes, 1740; died at Lisbon, 1795. One of the most celebrated of the poets of Colonial Brazil. He was a novice of the Jesuits, leaving that order upon its expulsion from Brazil. After traveling extensively in Europe he made his home in Lisbon. His epic poem *O Uruguay* was published in 1769.

3. GUSMÃO, ALEXANDRE.—Born in Santos, Brazil, 1695; died at Lisbon, 1753. Though a Brazilian by birth, Alexandre Gusmão rose to a position of great eminence in Portugal, being justly considered one of the foremost Portuguese statesmen of the period. After obtaining his doctorate at Paris he was sent to Rome on an important diplomatic mission by John V. It was largely through his efforts that the Portuguese king obtained from the pope the title of "Fedelissimo" (Most Faithful). As a diplomatist Gusmão's consummate skill is seen in the protracted negotiations between Portugal and Spain, culminating in the Treaty of 1750. This treaty fixed the boundaries between Spanish and Portuguese America on the basis of *uti possidetes*; it was considered a diplomatic triumph for Portugal. A full account of Gusmão's diplomatic and literary activities is given in J. M. Pereira da Silva, *Os Varões illustres do Brasil durante os Tempos coloniaes*, (Paris, 1858), vol. I, pp. 229-256.

4. DOM JOHN V.—King of Portugal, 1706-1750. The absurdities in the court of this ruler largely sprang from a ridiculous desire to imitate Louis XIV, a fondness for empty titles, and extravagance in squandering vast sums on buildings, especially on the great convent at Mafra (said to have cost over \$20,000,000). Cf. H. Morse Stephens, *History of Portugal*, pp. 350 *et seq.*

5. Coimbra.—The seat of the only university in Portugal. It was founded in 1290 in Lisbon and transferred to Coimbra in 1308.

6. MIRANDA, FRANCISCO ANTONIO GABRIEL DE.—Born at Caracas, Venezuela, 1756; died at Cadiz, Spain, July 1816. During his adventurous career in England, Miranda was busy plotting for the emancipation

of Spanish South America, and in 1806 he made an unsuccessful attempt to lead a revolt in Venezuela. On the breaking out of the Revolution two years later he returned to Venezuela, and became dictator in 1812. But in the same year, partly as a result of a severe earthquake which was interpreted as a sign of divine displeasure at the revolution, the Royalists gained the upper hand, and Miranda was forced to surrender. He was sent to Spain, and died in prison at Cadiz four years later. The standard biography of Miranda is that of W. S. Robertson, *Francisco de Miranda*, in the Annual Report of the American Historical Association, I, 266 *et seq.*

7. For a brief account of this revolt see T. C. Dawson, *The South American Republics*, (New York, 1910), I, pp. 409-410.

8. Dr. Lima here refers, of course, to the transference of the Portuguese court and center of government from Lisbon to Brazil in 1808.

9. GONÇALVES DIAS, ANTONIO.—Born at Caxias, Maranhão, 1824; died at sea, 1864. The foremost of Brazilian poets. After taking his degree at the University of Coimbra he was appointed professor of history at the Collegio Dom Pedro II at Rio de Janeiro. He was subsequently employed in various literary commissions in northern Brazil and in Europe, meanwhile gaining a national reputation as a dramatist and above all as a lyric poet. Owing to failing health he sought a change of climate in Europe; on his return in 1864 he perished by shipwreck in sight of his native shore. His works include *Primeiros cantos* (1846); *Segundos cantos e sextilhas de Frei Antônio* (1848); and *Últimos cantos* (1851).

10. The *Recopilación de leyes de los reynos de las Indias*, (last edition, 4 vols., Madrid, 1841).

11. ZUMÁRRAGA, JUAN DE.—Born near Durango, Biscay, 1486; died at Mexico City, 1548. The first bishop of Mexico. He arrived in Mexico in 1527 and immediately became the zealous champion of the native population, receiving the title and office of Protector of the Indians. Through his efforts various schools for the Indians were founded and missionary activity extended throughout large portions of Mexico and Spanish America. At the same time he gained a melancholy renown for the wholesale destruction of all Aztec manuscripts on which he could lay hands, and at his instance similar scenes were enacted in other towns and cities of New Spain. He was raised to the position of Archbishop of Mexico eight days before his death. See Joaquín García Icazbalceta *Don Fray Juan Zumarraga, primero obispo y arzobispo de Mexico*, (Mexico, 1896), *Obras*, I.

12. MENDOZA, ANTONIO DE (1485-1552).—The first viceroy of New Spain, which office he held from 1535 to 1549. A full account of his activities in Mexico may be found in Bancroft, *History of Mexico*, (San Francisco, 1877), vol. II, pp. 375-385.

13. POPE ALEXANDER VI by his famous Papal Bull of May 3, 1493, drew a line of demarcation "one hundred leagues west of the Azores and Cape Verde Islands," giving to Spain the right of conquest to the west of it, and to Portugal the same right on the east. The Convention of Tordesillas, signed by representatives of Spain and Portugal at the Spanish town of Tordesillas on June 7, 1494, removed the line of demarcation to a meridian 370 leagues west of the Cape Verde Islands, thus, as it later proved, putting Brazil within the sphere of the Portuguese. Cf. on this subject Fiske, *Discovery of America*, (Boston, 1892), I, ch. vi.

14. CASTILLO DE BOBADILLA, *Política para corregidores y señores de vasallos en tiempo de paz y guerra y para prelados en lo espiritual y temporal entre legos, iuezes de comisión . . . y otros oficiales publicos. Autor el licenciado Castillo de Bobadilla*, (2 vols., Medino del Campo, 1608.)

15. Revolt of the Comuneros.—The famous revolt of the Castilian Communes against the tyranny of Emperor Charles V (Carlos I of Spain). The revolt broke out in 1519 and was finally suppressed in 1521, after the decisive defeat of the Comuneros at the Battle of Villalar (April 1521). Cf. Armstrong, *Emperor Charles V*, (New York, 1902), I, ch. v.

16. CÁNOVAS DEL CASTILLO, ANTONIO (1828-1897).—A Spanish statesman and leader of the Conservative Party. He was largely instrumental in securing the restoration of the Bourbons in the person of Alfonso XII. Between 1875 and 1897 he was five times premier, his career finally being cut short by the bullet of an anarchist in August, 1897. His writings include *Historia general de España* (a coöperative work of which he was editor), (Madrid, 1891 fol.), and *Estudios del reinado de Filipe IV*, (2 vols., Madrid, 1880).

17. For a qualified approval of this system of selling public offices in the *cabildos* see Bourne, *Spain in America*, (New York, 1904), pp. 237-239. The system is unsparingly condemned by the Argentine author J. Garcia in his *Ciudad indiana*, (Buenos Aires, 1910), pp. 169-170.

18. Reference here is made to a paper read by Dr. Salgado on the *cabildo* at the Congress of Americanists held at Buenos Aires in 1910.

19. MITRE, BARTOLOMÉ.—Born at Buenos Aires, 1821; died there, 1894. A famous Argentine general, statesman and writer. After an

active participation in the political life of Argentina he was elected president for the period 1862-1868, fulfilling the duties of his office with great ability. He subsequently occupied important diplomatic positions, including that of minister to Brazil. In 1852 he founded "La Nación," which soon became the most important journal of Buenos Aires, and which remained under his direction until his death. Besides a large number of poems, essays, speeches, etc. he published two important historical works, the *Historia de Belgrano* (1857 et seq.), and *Historia de San Martín* (1884, English abridged translation, 1893).

20. The standard histories which cover wholly or part of this critical period in Brazilian history are Oliveira Lima, *Dom João VI no Brasil*, (2 vols., Rio de Janeiro, 1911), and Pereira da Silva, *História da fundação do imperio brasileiro*, (7 vols., Rio de Janeiro, 1864-1868). Cf. also Dawson, *South American Republics*, (New York, 1904), vol. I, and Armitage, *History of Brazil*, (2 vols., London, 1836).

21. DOM PEDRO (DOM ANTONIO PEDRO DA ALCANTARA BOURBON).—Born in Lisbon, 1788; died there, 1834. Second son of King John VI, whom he accompanied to Brazil in 1808. Upon the return of John VI to Brazil in 1821, Dom Pedro was left as regent. On September 7, 1822, Dom Pedro pronounced for independence from Portugal; on October 12 he was proclaimed emperor, under title of Dom Pedro I, being crowned December 1. On April 7, 1831, he abdicated in favor of his son, later famous as Emperor Dom Pedro II. For references to authorities see preceding note.

22. RICARDO PALMA (d. 1913).—Author of *Tradiciones del Peru*, (4 vols., Barcelona, 1893). Well known to all investigators of Latin American history as the distinguished and scholarly director of the National Library at Lima.

23. DON VICENTE QUESADA.—See Lecture I, note 31.

24. JUAN and ULLOA.—See Lecture I, note 18.

NOTES ON LECTURE III.

1. HANDELMANN, HEINRICH, *Geschichte von Brasilien*, (Berlin, 1860).
2. SOUTHEY, ROBERT, *History of Brazil*, (3 vols., London, 1810-1819).
3. PI Y MARGALL.—The reference here is probably to *Les Nationalités*, (Paris, 1879).
4. COELHO DA ROCHA, M. A., *Ensaio sobre a historia do governo e da legislação de Portugal para servir de introdução do estudo do direito patrio*, (3d edition, Coimbra, 1851).
5. DIEGO DO CONTO, *Observações sobre as principaes causas da decadencia dos Portuguezes na Asia com o titulo de soldado pratico*, (Lisboa, 1790).
6. *Op. cit.*, pp. 87-88.
7. Audiencias.—For an able discussion of this institution cf. Moses, *Establishment of Spanish Rule in America*, ch. iv.
8. ARANDA, COUNT OF, (PEDRO PABLO ABARCA Y BOLEA, 1718-1799).—A Spanish statesman and diplomatist, celebrated as one of the reforming ministers of Charles III.
9. This whole episode, including an account of the interview between Maia and Thomas Jefferson in the amphitheater of Nîmes, is given by Dr. Lima in his *Formation historique de la nationalité brésilienne*, (Paris, 1911), pp. 115-116.
10. See note 16 to Lecture I.
11. For a brief but excellent discussion of this critical period of Brazilian History cf. Dawson, vol. I, chs. xiii-xvi.
12. VILLANUEVA, CARLOS A., *La monarquía en America*, (2 vols., Paris, 1911).
13. VILLANUEVA, *op. cit.*, tomo I, *secunda parte*.
13. COCHRANE, THOMAS, Tenth Earl of Dundonald (1775-1860).—A British naval commander famous for his participation in the Spanish American Wars of Independence. In 1818 he accepted an invitation to organize the infant navy of Chile, and as admiral of the Chilian fleet practically annihilated the Spanish sea power in the South Pacific. In 1820 he transported the army of San Martin from Valparaíso to Callao and greatly facilitated the capture of Lima. Owing to quarrels with

the Spanish American Revolutionists he left their service and assumed command of the Brazilian Navy; in this new capacity he recovered Bahia and Maranhão from the Portuguese. A detailed account of his activities during his stirring period is given in *The Life of Thomas, Lord Cochrane* by his son, Thomas, Eleventh Earl of Dundonald, (2 vols., London, 1869).

14. MILLER, WILLIAM.—Born in Wingham, Kent, December 2, 1795; died at Callao, Peru, October 31, 1861. An English general in the service of Peru. After engaging in the War of 1812 between the United States and Great Britain, he took service with the Revolutionists at Buenos Aires in 1816; subsequently he held independent commands in Chile and Peru, and played an important part in the decisive battles of Junin and Ayacucho (1824). His Memoirs, published by his brother, John Miller, in 1829, form one of the best authorities on the Spanish American Revolution.

15. Reference to this fantastic proposal may be found in Villanueva, *op. cit.*, t. I, *secunda parte*. Tupac Amaru, sometimes called the "Last of the Incas," was a Peruvian revolutionist, said to be a direct descendant of the early Incas. In 1780 he led the Indians of Peru in a rebellion against the Spanish authorities. After a number of minor successes the rebellion was put down with great cruelty, while Tupac Amaru was executed after suffering horrible tortures. This rebellion was the most formidable in the colonial history of Spanish America, and indirectly paved the way for the Wars of Independence. An excellent account of the rebellion of Tupac Amaru is given in Moses, *South America on the Eve of Emancipation*, ch. viii.

16. By "Indianism" Dr. Lima of course refers to that somewhat fantastic idealization of Indian life and customs reflected in the poems and romances of the Brazilian authors, Gonçalves Dias and José de Alencar.

17. BELGRANO, MANUEL (1770-1820).—An Argentine general prominent in the earlier period of the Spanish American Wars of Independence; he was superseded in command of the revolutionary forces by San Martin in 1816. His life has been made the subject of a detailed study by the Argentine statesman and writer, Bartolomé Mitre, *Historia de Belgrano*, (Buenos Aires, 1857, *et seq.*).

18. RIVADAVIA, BERNADINO (1780-1845).—An Argentine statesman. Between 1811 and 1827 he occupied many public positions of great importance and influence, including that of President of the Argentine Confederation; in the formative period of the Argentine Republic he was a commanding figure. According to Mitre "he stands in America second alone to Washington as the representative statesman of a free people."

19. PUEYRREDON, JUAN MARTIN (1780-1845).—An Argentine gen-

eral and statesman. He was "Supreme Dictator" of the United Provinces of La Plata during the critical years 1816-1819. It was largely through his efforts that San Martin was able to organize the "Army of the Andes" which liberated Chile from the control of Spain. A detailed account of the activities of Pueyrredon and Rivadavia during this period is given by Mitre in his *Historia de San Martin* (1884; English abridged translation by E. Pilling, 1893).

20. DUKE OF LUCCA.—The diplomatic negotiations centering about the Duke of Lucca are discussed by Villanueva, *op. cit.*, I, pp. 131-164.

21. LA SERNA Y HINOJOSA, JOSÉ DE (1770-1832).—The last viceroy of Peru. He was defeated by General Sucre and his whole army captured at the battle of Ayacucho, December 9, 1824, thus virtually bringing to an end Spanish rule in South America.

22. PEZUELA, JOAQUIN DE LA (1761-1830).—Viceroy of Peru from 1816 to 1821. Owing to his failure to make headway against the revolutionists he was deposed by his officers January 29, 1821, and soon after returned to Spain. For an account of events in Peru at this period see the *History of Peru* by Sir Clements R. Markham, (Chicago, 1812).

23. APODACA, JUAN RUIZ DE (1754-1835).—Viceroy of New Spain from 1816 to 1822. Though an able administrator he could not put down the revolution headed by Iturbide, and was virtually forced to abdicate.

24. O'DONOJU, JUAN (1755-1821).—The last Spanish ruler in New Spain. In 1821 he was appointed captain general and acting viceroy of New Spain, but on reaching Vera Cruz discovered that the revolution had gained such strength that he was forced to temporize. On August 24, 1821, he signed with Iturbide the Treaty of Córdoba, practically surrendering Mexico to the revolutionists. A full account of conditions in Mexico at this period is given in Bancroft, *History of Mexico*, vol. III, *passim*.

25. TROCADERO.—The name given to a fort near Cadiz captured by the French from the Spanish revolutionists, August 31, 1823. The square in Paris containing the Exposition building in 1878 was named after this "victory."

26. ITURBIDE.—For further details regarding this ill-starred Mexican emperor cf. Bancroft, *op. cit.*, III, ch. xx.

27. Interview of Guayaquil.—Probably the best discussion yet written of this baffling subject is that of Villanueva, *op. cit.*, I, 199-283.

28. Cf. Villanueva, *ibid*.

29. A summary of this dispatch of the Colombian envoy Zea is given by Villanueva, *op. cit.*, I, 198.

30. O'HIGGINS, BERNARDO (1776-1842).—A celebrated Chilean general and statesman. He was the son of the famous Viceroy Ambrosio O'Higgins. While studying in England he gained revolutionary ideas from Miranda, and at the outbreak of the Wars of Independence he became a leader of the Chilean patriots. Defeated at Rancagua in 1814 he joined San Martín in the invasion of Chile and had a decisive part in the victory of Chacabuco (February 12, 1817). He was subsequently chosen "Supreme Director of Chile" with dictatorial powers, but a revolution fomented by his enemies forced him into exile in 1823. He is the most notable figure in the liberation of Chile. Perhaps the best account of O'Higgins' activity at this time is found in Diego Barros Arana's *Historia general de la independencia de Chile*, (4 vols., Santiago, 1854-58; Paris, 1856).

31. The most important of these revolts was that of Tupac Amaru. Cf. note 15 to this Lecture.

32. ALTAMIRA, RAPHAEL.—The distinguished professor of history at the University of Oviedo. The most important of his many works is his *Historia de España e de la civilización española*, (4 vols., Barcelona, 1900-1911).

33. For a brief account of the activities of the Visitador-general José Galvez cf. Bancroft, *History of Mexico*, III, ch. xx, and Don E. Smith, *The Viceroy of New Spain in the Eighteenth Century*, in the Annual Report of the American Historical Association, 1908, vol. I, pp. 171-181.

34. An excellent account of the attempts of Sir Home Popham and Brigadier-General Beresford to gain possession of Buenos Aires is given by Professor Bernard Moses in his *South America on the Eve of Emancipation*, chs. xi and xii.

35. LINIERS Y BRÉMONT, SANTIAGO ANTONIO MARIA DE (1756-1810).—A French royal officer in the Spanish naval service. It was largely through his efforts that the English were definitely expelled from the La Plata region in 1808. On the outbreak of the Wars of Independence he attempted to reestablish the royal authority, but was captured and shot. The standard biography of Liniers is that of Paul Groussac, *Santiago de Liniers, Conde de Buenos Aires, 1753-1810*, (Buenos Aires, 1907).

36. The Cadiz Regency, consisting of five members, attempted to rule Spain in the name of the exiled Ferdinand VII from January 31 to September 24, 1810. Its most important act was the summoning of the famous Cortes of Cadiz to which the American Colonies were invited to send representatives. Cf. Martin Hume, *Modern Spain*, (London, 1899), pp. 165 *et seq.*

NOTES ON LECTURE IV.

1. HIDALGO Y COSTILLA, MIGUEL (1753-1811).—The first leader of the Mexican Wars of Independence. While curate of the village of Dolores he raised the standard of revolt ("Grito de Dolores"). After several minor successes he was disastrously defeated by Calleja at the bridge of Calderon, January 17, 1811. In attempting to escape to the United States he was captured, tried, and on August 1, 1811, was executed at Chihuahua. Cf. Bancroft, *History of Mexico*, III, passim; Noll and McMahon, *The Life and Times of Miguel Hidalgo y Costilla*, (Chicago, 1910).

2. MORELOS Y PAVON (1765-1815).—A Mexican priest prominent in the earlier period of the Wars of Independence. He took up the work of Hidalgo; for a time was very successful, but after 1813 met a crushing series of defeats. On November 15, 1815, he was captured, tried by the Inquisition, and executed December 22, 1815. He was probably the last victim of the Holy Office in New Spain. Cf. Prescott, *Conquest of Mexico*, III, passim.

3. An excellent account of conditions in Pernambuco at this period is given by Dr. Lima in his *Pernambuco, seu desenvolvimento historico*, (Leipzig, 1895). Cf. also notes 12 and 13 to this Lecture.

4. FEIJO, DIEGO ANTONIO (1784-1843).—A Brazilian priest, prominent in History of Brazil from 1822 to 1837. In 1822 he was sent as a representative from the province of São Paulo to the famous Portuguese Cortes of that year. He made an eloquent speech in defence of Brazilian rights, which were threatened by the Portuguese majority. On his return to Brazil he was elected by the province of São Paulo to the legislatures of 1826-1829 and 1830-1833. In 1827 he proposed the abolition of clerical celibacy, and in the following year submitted a project for the reform of municipalities. During the stormy period from 1833 to 1837 he was one of the foremost men of the empire, being elected regent of Brazil in 1834. In his new office he proclaimed a liberal and advanced program, but he encountered such opposition that he resigned his office September 18, 1837, retiring shortly afterwards to private life. Cf. Eugenio Egas, *Diego Feijo*, (2 vols., São Paulo, 1912).

5. NABUCO, JOAQUIM (1849-1910).—A distinguished Brazilian diplomatist and author. He was a member of the Brazilian Parliament during

the Empire, took an active part in the abolition of slavery during the years 1879-1888, and after the proclamation of the Republic fulfilled with great credit a number of high diplomatic positions. He was appointed ambassador to Washington in 1905 when Brazil created in the United States her first embassy. This important post he held until his death in 1910.

Dr. Nabuco was the author of a number of works of great literary and historical value. Among these are *O Abolicionismo*, (London, 1883), an impassioned plea for immediate negro emancipation; *Minha Formação*, (Paris, 1910), a delightful autobiography; and finally, *Um estadista do imperio*, (3 vols., Paris, 1897), a scholarly monograph on the life and times of his father, Nabuco de Araujo.

6. Syllabus.—The famous "Syllabus errorum" issued by Pope Pius IX in 1864. It is a wholesale condemnation of liberalism, both in state and church.

7. The last struggle between church and state in Brazil was the famous "Affair of Olinda," which occurred in 1872-1875. It was an unsuccessful attempt on the part of certain members of the higher clergy of Brazil, especially the Bishop of Olinda, to eliminate from the Church and from the benevolent brotherhoods or *Irmandades* the influence of the Masonic Order. Cf. Nabuco, *Um estadista do imperio*, vol. III; J. Bournichon, S.J., *Le Brésil d'aujourd'hui*, (Paris, 1910), ch. ix.

8. See above, note 1.

9. Dr. Lima refers more specifically to the alliance of the higher Mexican clergy with certain prominent revolutionists, especially Iturbide and Guerrero. The result of this alliance was the "Plan of Iguala," which not only provided for complete independence from Spain but also specifically safeguarded the rights and property of the Church. Cf. Bancroft, *History of Mexico*, vol. III, *passim*.

10. LABRA, RAPHAEL M. DE (1841-).—A distinguished Spanish writer and educator. Though born in Cuba, at the age of ten he was taken by his parents to Madrid, where he was educated and admitted to the bar in 1860. He took an active part in the movement for the abolition of slavery in the Spanish colonies, and in 1869 was elected president of the first anti-slavery society ever established in Spain. In 1871 he was elected a member of the Cortes by Porto Rico, and up to the Spanish American War he constantly represented, as a pronounced liberal, either Cuba or Porto Rico. At the same time he fulfilled the duties of professor in the University of Madrid, and wrote numerous books and articles, generally of a historical character. These include *La cuestión colonial* (1868);

La colonización en la historia (1877); *La abolición de la esclavitud* (1882), etc.

11. Ayacucho, Battle of.—The most memorable and decisive battle in the Spanish American Wars of Independence was won by General Sucre, December 9, 1824, at Ayacucho, midway between Lima and Cuzco. The Viceroy Serna, the commander of the Spanish forces, was taken prisoner, and the independence of Spanish America was assured.

12. RIBEIROS.—João Ribeiro Pessoa de Mello Montenegro, known as Padre Ribeiro. A liberal priest implicated in the ill-starred Revolution of 1817. This uprising was due to the Brazilians' jealousy of the Portuguese, and the examples of the French and American revolutions. It was put down with great cruelty by the royal government. When the rebellion collapsed Ribeiro committed suicide rather than fall in the hands of the royalists (May 20, 1817). Cf. *Compendio de historia do Brazil*, pelo P. Raphael M. Galanti, S.J., (São Paulo, 1905), t. IV, pp. 48-69; Pereira da Silva, *Historia da fundação do imperio brasileiro*, t. IV.

13. ROMA.—José Ignacio Ribeiro de Abreu e Lima, known as "Padre Roma." Like Ribeiro, Roma was an enthusiastic leader of the Revolution of 1817. Sent on a special mission to arouse a revolt in the provinces of Alagoas and Bahia, he was captured by the Portuguese commander Conde dos Arcos and shot as a traitor. For references see preceding note.

14. Junin, Battle of (August 6, 1824).—In this engagement Bolívar defeated the royalists under Canterac. The battles of Junin and Ayacucho, by crushing the remaining Spanish power in Upper Peru, brought the Wars of Independence to an end.

15. *Cabildo abierto*.—For an excellent discussion of the part played by the *cabildo* in the history of Spanish America see Moses, *South America on the Eve of Emancipation*, ch. iv, ("The Colonial City").

16. For an account of events in Venezuela in 1810 cf. Dawson, *South American Republics*, I, 356-383; and Manchini, *Bolívar et l'émancipation des colonies espagnoles*, (Paris, 1912).

17. Para-Maranhão State.—The State of Maranhão was established by royal decree of June 3, 1621; it included the former captaincies of Maranhão, Ceará, and Pará. The first governor was appointed in 1624, although he did not take formal possession until two years later. In 1733 the seat of government was transferred from São Luiz to Pará, and in 1772 the separate state was abolished. Cf. J. P. Oliveira Martins, *O Brazil e as colonias portuguesas*, (Lisboa, 1904), p. 60.

18. JOSÉ BONIFACIO (JOSÉ BONIFACIO DE ANDRADE E SILVA), (1765-1838).—A celebrated Brazilian statesman and scholar. Though born in Santos, Brazil, José Bonifacio completed his studies in Europe. Under the patronage of the Lisbon Royal Academy he travelled extensively, studying mineralogy and metallurgy under the most famous teachers of the time. In 1800 he was appointed professor of metallurgy at the University of Coimbra, and in 1812 was made perpetual secretary of the Lisbon academy of sciences. He returned to Brazil in 1819 and at once became an ardent supporter of national independence. Entering politics he was made minister of the interior and foreign affairs in 1822, and it was on his advice that Dom Pedro threw off allegiance to Portugal. He soon fell out with the emperor, however, and owing to his bitter opposition in the Constituent Assembly was banished to France (1823), living in Bordeaux till 1829, when he returned to Brazil. During the minority of Dom Pedro II he was chosen as the young prince's guardian and tutor. In 1833 he was tried on a charge of intriguing for the return of Dom Pedro I, was acquitted, but deprived of his place. The best account of the activity and influence of José Bonifacio is probably that given by Pereira da Silva in his *Os varões illustres do Brazil durante os tempos coloniaes*, (Paris, 1858), tomo II, pp. 249-299.

19. Pichincha and Maypu.—Two important battles in the War of Independence. In the slope of the volcano Pichincha in Ecuador, General Sucre on May 24, 1822, overwhelmingly defeated the royalists under Ramirez, thus freeing Ecuador from Spanish rule. The battleground is 15,000 feet above sea level, probably the highest battlefield in the world. In the Battle of Maypu, some seven miles from Santiago de Chile, General San Martin on April 5, 1818, defeated the Spaniards under Osorio. This victory, one of the immediate results of San Martin's spectacular passage of the Andes, practically secured the independence of Chile.

20. GARCIA CALDERON, FRANCISCO MARIA.—A Peruvian sociologist and historian, the son of the Peruvian statesman, Francisco Garcia Calderon (1834-). His chief works are *Le Pérou contemporain* (Paris, 1907), and *Les démocraties latines de l'Amérique*, (Paris, 1912; English translation, London and New York, 1913).

21. San Martin went into exile in 1823 and save for a brief period remained in France until his death. For a time he lived near Paris in great poverty on the proceeds of the sale of a house given him by the Argentine Congress after the Battle of Maypu. In 1832 the Spanish banker Aguada, who had been one of his comrades in the Peninsular War, came to his assistance. He gave him a small country house on the banks of the

Seine, and here, surrounded by trees and flowers, he passed the remaining years of his life. His chief occupation was the care and education of his daughter, who had shared with him all the hardships of exile. Cf. Mitre, *Life of San Martin*, (Pilling's trans.), p. 473 *et seq.*

22. Baylen, Capitulation of.—By this capitulation the French general Dupont and his army surrendered to the Spaniards under General Castaños (July 22, 1808). It was the first important success won by the Spaniards over the French in the Napoleonic Wars.

Tudela.—A town in Northern Spain, in the province of Navarre. Near here in 1808 the Spanish forces under Generals Castaños and Palafox were twice defeated by the French under Marshal Lannes.

23. Boyacá, Battle of.—On August 7, 1819, Bolívar defeated the royalists under Barreiro at the village of Boyacá in Colombia. This victory practically secured the independence of Colombia or New Granada.

24. For the Battle of Junin see above, note 14.

25. A full account of the Congress of Panama is given in the *Reports* of the First International American Conference, Historical appendix, (Washington, 1890).

26. On this whole subject see W. S. Robertson, *Francisco de Miranda*, chs. xiii-xiv. Cf. also note 6 to Lecture II.

27. DRAGO.—See below, Lecture VI, note 34.

28. RIVADAVIA.—See above, Lecture III, note 18.

29. BELGRANO.—See above, Lecture III, note 17.

30. O'HIGGINS.—See above, Lecture III, note 30.

31. SUCRE, ANTONIO JOSÉ DE.—Born at Cumaná, Venezuela, 1793, died in New Granada, 1830. A famous general of the Spanish American Wars of Independence. By his victory at Pichincha (May 24, 1822) he liberated Quito or Ecuador, and by his victory at Ayacucho (December 9, 1824), completed the independence of Spanish South America. He was elected president of Bolivia in 1826 and subsequently fought in the war between Colombia and Peru on the side of Colombia. The city of Sucre, the official capital of Bolivia, is named after him.

32. DOM PEDRO I.—See Lecture II, note 21.

33. JOSÉ BONIFACIO.—See above, note 18.

34. PAEZ, JOSÉ ANTONIO (1790-1873).—A Venezuelan general and politician. Together with Bolívar he played a prominent part in the liberation of Venezuela from Spain; subsequently under the Republic of Greater Colombia he was made supreme military commander in Venezuela. In 1828 and 1829 he was largely instrumental in detaching Venezuela from Colombia. He was president of the new republic from 1831

to 1835 and again from 1839 to 1843; from 1860 to 1863 he was dictator; even during those years in which he held no public office he wielded a decisive influence in Venezuelan affairs.

35. QUIROGA, JUAN FACUNDO (1790-1835).—An Argentine soldier, politician, and *caudillo*. His parents were shepherds in the Argentine province of San Juan. During his youth and early manhood he was notorious as a gambler and highway robber; later he became one of the henchmen of the dictator Rosas. His cruelty, unscrupulousness, and reckless daring were proverbial; for a time he was absolute master of the provinces of La Roja and Tucumán. Though for a time he worked in harmony with the government at Buenos Aires, he at length forfeited the confidence of Rosas, and at the latter's instigation was assassinated. Sarmiento has made Quiroga the central figure in his celebrated work, *Facundo Quiroga o civilización y barbarie en las pampas argentinas*, (Buenos Aires, 1852; English translation by Mrs. Horace Mann, London, 1868).

36. MONAGAS, JOSÉ TADEO (1784-1868).—A Venezuelan general and politician, prominent in the affairs of his country from 1835 to 1868. Cf. Dawson, *South American Republics*, II, pp. 384 ff.

37. ALBERDI, JUAN BAUTISTA (1810-1884).—A noted Argentine historian and economist. Among his important works are: *Bases y puntos de partida para la organización política de la República Argentina*, (Valparaíso, 1852); *La República Argentina consolidada en 1880 con la ciudad de Buenos Aires por capital*, (Buenos Aires, 1881); *Escritos postumos*, (16 vols., Buenos Aires, 1895-1901). Professor Reinsch considers Alberdi as "the most original thinker in politics whom South America has produced," ("The Study of South American History" in *Turner Essays on American History*, New York, 1901, p. 273).

38. ROSAS, JOSÉ MANUEL DE (1793-1877).—Dictator of Buenos Aires. In 1828 he became chief of the Federalist Party in the United Provinces of Buenos Aires in opposition to the so-called Unitarians, and from 1835 to 1852 he was an absolute dictator. This was one of the dark periods in Argentine history. The press was muzzled, commerce was practically at a standstill, the majority of the leading men of the country were assassinated or driven into exile. Though nominally a Federalist, Rosas really put into operation a highly centralized government. He was at length defeated by Urquiza, the governor of the province of Entre Ríos, at Monte Caseros near Buenos Aires, on February 3, 1852. He fled to England, where he lived in obscurity until his death. The standard work on this period is that of J. Ramos Mejía, *Rosas y su tiempo*, (Buenos Aires, 1907).

39. FRANCIA, JOSÉ GASPAR RODRIGUEZ (1761-1840).—The famous dictator of Paraguay. From 1814 to 1840 he ruled Paraguay as an absolute despot; during this period Paraguay was practically cut off from the rest of the world. Carlyle has written a brilliant though one-sided defense of "the lonely Francia," depicting him as "a man or sovereign of iron energy and industry, of great and severe labor." The essay originally appeared in the *Foreign Quarterly Review* for 1843, and is reprinted in his *Critical and Miscellaneous Essays*. Cf. also *The History of Paraguay*, by C. A. Washburn, (2 vols., New York, 1871).

NOTES ON LECTURE V.

1. BELLO, ANDRES.—Born at Caracas, Venezuela, 1781; died at Santiago, Chile, 1865. A distinguished Spanish American author and scholar. On the outbreak of the Wars of Independence he threw in his lot with the revolutionists, and in 1810 was sent by Bolívar on a diplomatic mission to London, where he resided for nineteen years. In 1834 he accepted a post in the Chilean treasury, took up his residence at Santiago, and was instrumental in founding the University of Santiago (1843), of which he became rector. His literary activity was amazing; he wrote prose works dealing with law, philosophy, literary criticism and philology; of these the best known is his *Grammatica castellana* (1847). An authority both in Spain and Spanish America, his fame as a poet was won by his *Silvas Americanas*, in which the natural beauties of South America are described with extraordinary charm. He was chiefly responsible for the Chilean law code promulgated in 1855. Bello's complete works in fifteen volumes were published under the auspices of the Chilean government between 1881 and 1893. The standard biography of Bello is that of M. L. Amunátegui, (Santiago de Chile, 1882).

2. MORILLO, PABLO (1777-1838).—A Spanish general, who from 1815 to 1820 attempted to put down the revolution in Venezuela and New Granada. At first successful, he was later outwitted and outgeneraled by Bolívar, by whom in 1829 he was obliged to sign a truce; he was then recalled to Spain at his own request.

3. MORENO, MARIANO (1778-1811).—Argentine lawyer and editor. He studied law at Buenos Aires and in the year 1800 completed his studies in Upper Peru at Chuquisaca. In 1805 he returned to Buenos Aires and at the request of the Argentine land owners drew up the *Representación de los hacendados*, alluded to by Dr. Lima in Lecture VI. He took an active part in the movement looking towards national emancipation, and on May 25, 1810, was appointed secretary general of the first governing "junta." At the same time he was editor of "La Gaceta." As his views conflicted with the president of the Junta, Cornelio Saavedra, he resigned on December 18, 1810. In January 1811 he was appointed the first representative of the new nation to England, but died on his way thither (March 4, 1811). Our chief source for his life and political activity is the biography written by his brother, Manuel Moreno, *Vida y memorias*

del Dr. Mariano Moreno, secretario de la junta de Buenos Aires, (London, 1812; enlarged ed., 1836).

4. GUIBERT, JACQUES ANTOINE HIPPOLYTE, COMTE DE.—A French general and celebrated military writer. His work, *Essai général de tactique*, (Paris, 1770), has been styled the best essay on war produced by any modern writer previous to 1871. The letters of the famous Mlle de Lespinasse (1732-1776) were written to Guibert between 1773 and 1776; they were published in 1809, and have been compared by Sainte Beuve to the Latin Letters of Héloïse to Abelard.

5. OLMEDO, JOSÉ JOAQUIN (1782-1847).—A famous Ecuadorian poet and politician. He played a prominent part in the Wars of Independence; after the creation of the Republic of Ecuador he held various positions of importance and trust up to his death. He is chiefly known outside of Ecuador as a lyric poet; the Pindaric poem referred to by Dr. Lima was published in London in 1826 under the title *La victoria de Junin, canto á Bolívar*.

6. Battle of Ayacucho.—See Lecture IV, notes 11 and 31.

7. CUERVO, RUFENO JOSÉ (1847-1892).—The most important works of this distinguished Colombian scholar are: *Apuntes críticos sobre el lenguaje bogotano*, (5th ed., Paris, 1907); *Diccionario de construcción y régimen de la lengua castellana*, (Paris, 1886); and his edition of Bello's *Grammatica de la Lengua castellana destinada al uso de los Americanos*, (10th ed., Paris, 1907). Cf. also *Vida de Rufino Cuervo y noticias de su época* por Angel y Rufino Cuervo, (Paris, 1892).

8. Congress of Tacumán.—A general congress held in Tacumán in 1816 in order to give a permanent organization to the revolted provinces of the Rio de la Plata. Complete separation from Spain was decreed; the new state took the name of the United Provinces of the Rio de la Plata, and Pueyrredon was chosen "Supreme Director" of the confederation. Cf. Mitre, *Historia de San Martín*, tomo I, *passim*.

9. Assembly of 1823.—This was the famous body summoned by Dom Pedro (later Emperor Dom Pedro I) to draw up a constitution for Brazil. The sessions of this assembly, which began in May 1823, became so stormy, and in the opinion of Dom Pedro so menacing to his authority, that he dissolved it in November of the same year. The constitution which the Assembly drew up was not promulgated. On this subject see Pereira da Silva, *Historia de fundação do imperio do Brasil*, (Rio de Janeiro, 1864-1868), tomos VI y VII, *passim*; Armitage, *History of Brazil*, (London, 1836), vol. II.

10. GAMARRA ET DAVALOS (JOANNES BENEDICTUS).—The only re-

ference I can find to this priest is the statement that he was the author of *Musa Americana, seu de Deo carmina ad usum scholarum Congregationis S. Philippi Nerii Municipii S. Michaelis in Nova Hispania*, (Gadibus, 1769).

11. The famous Portuguese Constituent Assembly of 1821, brought about by the revolution of the previous year. The treatment accorded the Brazilian deputies by the Portuguese majority was one of the causes of the definite independence of Brazil. On this topic see the able monograph of M. E. Gomez de Carvalho, *Os deputados brasileiros nas cortes geraes de 1821*, (Porto, 1911).

12. See Lecture III, note 35.

13. BLANCO, EDUARDO.—*La Venezuela heroica*, (Caracas, 1881). Other works by this well known Venezuelan author are *El numero III*, *Vanitas Vanitatum*, *Una noche en Ferrara*, and *Zarate*.

14. HUAYNA CAPAC.—The Inca who ruled from 1480 to 1523. He was the last ruler to wield undisputed sway over the Inca empire. On his death his sons Huascar and Atahualpa engaged in a bloody civil war which lasted up to the arrival of the Spaniards under Pizarro. The reference in Dr. Lima's lecture is of course to Olmedo's poem "Junin."

15. MERA, JUAN LEON (1832-).—*La virgen del sol, leyenda indiana*, (Quito, 1861). Among the other important works of this author may be mentioned *El heroe marter*, *Ultimos momentos de Bolívar*, *La musa perdida*, *Cartas ineditas de Olmedo*.

16. ALENCAR, JOSÉ MARTINIANO DE (1829-1877).—Among the best known works of this celebrated Brazilian novelist are *O Guarany*, *Iracema*, *O Sertanejo*. A brief but admirable appreciation of Alencar may be found in Garcia Merou, *El Bresil intelectual*, (Buenos Aires, 1900). Cf. also Silvio Romero, *Historia de la litteratura brasileira*, (Rio de Janeiro, 1886). For Gonçalves Dias see Lecture II, note 9.

17. VERISSIMO, JOSÉ.—One of the foremost living Brazilian literary critics and educators. His voluminous works include *Estudios de litteratura brasileira*, 4 vols.; *Impressões do Sul*; *Escenas da vida da Amazonas*, etc. At the present time Dr. Verissimo is director of the Normal school at Rio de Janeiro. Cf. Garcia Merou, *op. cit.*, pp. 97-141.

18. CHOCANO SANTOS.—*Alma America*, (Paris, n. d.). Chief among this poet's other works are *En la aldea*, *La selva virgin*, *La epopeya del Pacifico*, *Fiat lux*.

19. BARBOSA, RUY (1849-).—A distinguished Brazilian statesman, jurist and writer. He played an active part in the political events of the last days of the empire, attracting wide attention by his speeches in the

Brazilian parliament in favor of abolition. On the establishment of the Republic he was minister of finance under the provisional government; during the presidencies of Generals Deodoro da Fonseca and Floriano Peixoto he vigorously attacked the pretorian methods of government in his periodical "O Seculo"; appointed delegate of Brazil at the Second Hague Conference, he distinguished himself by his able championship of the rights of the South American Republic. In 1909 he was nominated for the presidency by the Civil Party, but was defeated by Marshal Hermes da Fonseca. In 1913 he was again nominated for the presidency, this time by the Republican Liberal Party, but withdrew his candidacy in December the same year. At the present time he is Senator from Bahia. The voluminous writings of Ruy Barbosa cover a wide range of topics, from a brilliant criticism of Swift to a plan for the reorganization of the educational system of Brazil. Cf. Garcia Merou, *El Bresil intelectual*, cap. 30-33.

20. See Lecture I, note 29.

21. MORAES SILVA, ANTONIO DE (1757-1825).—The first edition of his *Diccionario da lingua portugueza* appeared in 1789.

22. BLUTEAU, RAPHAEL (1638-1734).—*Diccionario da lingua portugueza*, (Lisboa, 1789).

23. See above, note 7.

24. DARIO, RUBEN.—Among the best known works of this famous Nicaraguan author are *Epistolas y Poemas*, *Azul*, *Cantos de Vida y Esperanza*; *España contemporanea*, *Tierras solares*, *Parisiana*. The last three are prose works.

25. GARCIA MORENO, DIEGO.—Born at Guayaquil, 1821; assassinated at Quito, 1875. An Ecuadorian politician; president 1861-65; 1869-75. He was famous for his extreme clerical and ultramontain tendencies; under his rule the government of Ecuador approached a theocracy. He even offered Pius IX an asylum after the abolition of the pope's temporal power. Cf. the eulogistic biography by Father A. Berthe, *Garcia Moreno, Président de l'Equateur*, (Paris, 1888).

26. LAGARRIGUE, JUAN ENRIQUE (1852-).—A noted Chilean Positivist who attempted to effect a partial reconciliation between the philosophy of Comte and the doctrines of Catholicism. His most important works are *La religión de la humanidad*, (Santiago, 1890), and *Hacia la regeneración definitiva*, (Santiago, 1908).

27. For an illuminating discussion of the rôle of Positivism in the recent history of Brazil see R. Teixeira Mendes, *Benjamin Constant, Esboço de uma apreciação synthetica da vida e da obra do Fundador da*

Republica Brasileira, (Rio de Janeiro, 1892). Teixeira Mendez is the greatest living authority on Positivism in Brazil. Cf. also Garcia Merou, *op. cit.*, pp. 83-97.

28. BARRETO, TOBIAS (d. 1889).—Barreto's chief work is his *Estudios allemães*, (Rio de Janeiro, 1892). The best short appreciation of the place of this philosopher in the history of Brazilian thought is to be found in Garcia Merou, *op. cit.*, cap. VI.

29. DIAZ RODRIGUEZ, MANUEL.—Among the best known works of this author are *Idolos rotos*, *Sangre patricia*, *Confidencias de Psiquis*.

30. NETTO, COELHO.—Among the best known works of this writer are *Miragem*, *A Esphinge*, *Apologos*, *Conferencias litterarias*, *Scenas e perfis*, etc. For a good brief discussion of the contemporaneous Latin American novel see F. Garcia Calderon, *Les démocraties latines de l'Amérique*, liv. V, ch. ii.

31. Cf. Lecture I, note 22.

NOTES ON LECTURE VI.

1. For the struggle between the Portuguese and the Dutch (1624-1662) see Southey, *History of Brazil*, vol. I, chs. xiv-xvii; Watson, *Spanish and Portuguese America during the Colonial Period*, vol. II, pp. 1 ff.; Edmundson, in *English Historical Review*, vol. XI (1896), 231 ff.; vol. XIV (1899), 676 ff.; vol. XV (1900), 38 ff.; Varnhagen, *Historia geral do Brazil*, (2 vols., Rio de Janeiro, 1854 and 1857).

2. PÉTION, ALEXANDRE (1770-1818).—President of Haiti from 1807 to 1818. For an account of his relations with Bolivar, who was an exile in Haiti from January to March, 1816, see F. L. Petrie, *Simon Bolivar*, (New York, 1899).

3. ZUMETA, CARLOS (CESAR).—*El continente enfermo*, (New York, 1899).

4. PRADT, ABBÉ DE.—This is the well known Dufour de Pradt, Bishop of Poitiers, and later Archbishop of Mechlin. De Pradt's reflections on Latin America are found in his *Des colonies et de la révolution actuelle de l'Amérique*, (Paris, 1817).

5. See Lecture IV, note 20.

6. War of the Pacific (1879-1883).—The struggle between Chile and Peru—the latter aided by Bolivia—for the possession of the rich nitrate and guano deposits belonging to Bolivia and Peru. The war resulted in a decisive victory for Chile. Cf. Sir Clements Markham, *The War between Chile and Peru*, (London, 1882), and Diego Barros Arana, *Histoire de la guerre du Pacifique*, (Paris, 1881).

7. GAUCHO.—The name given to the cow-boys or riders of the vast pampas or plains of Argentine and Uruguay. The *gauchos*, though generally of Spanish descent, have become a distinct type, which, however, is fast disappearing before the march of civilization.

8. See Lecture I, note 15.

9. LLANERO.—The name applied to the inhabitants of the vast plains or llanos of Venezuela. The llaneros possess many of the characteristics of the *gauchos*, but are apt to be more turbulent and warlike. On several occasions they played a decisive part in the Venezuelan Wars of Independence.

10. See Lecture I, note 3.

11. See Lecture I, note 22.

12. See Lecture IV, note 34.

13. SANTANDER, FRANCISCO DE PAULA (1792-1840).—A prominent South American general and statesman, frequently spoken of as the founder of the Republic of New Granada. Though he had coöperated with Bolívar in the Wars of Independence, he came into conflict with him on the question of Greater Colombia; there is even some evidence that Santander was involved in an attempt to assassinate Bolívar shortly before the latter's death. On the disintegration of Greater Colombia, Santander was elected President of New Granada (1832), an office he held until 1837. For Paez, cf. Lecture IV, note 34.

14. See Lecture IV, note 38.

15. PORTALES, DIEGO JOSÉ VÍCTOR (1793-1837).—A Chilean politician and leader of the Conservative Party. Though Portales never held any higher position than Minister of War and Vice-President (1830-31; 1835-37), he largely shaped the policies of the Conservative Party and helped to lay the foundation of their power, which lasted until 1861. While refusing to allow the mass of the people any active participation in the government, the Conservative leaders devoted themselves to improving the conditions of the people, and under their highly centralized rule Chile advanced rapidly in prosperity.

16. Cf. Garcia Calderon, *Les démocraties latines*, liv. II.

17. CASTILLA, RAMON (1796-1867).—President of Peru from 1845 to 1851 and from 1855 to 1862. Under Castilla, Peru enjoyed an era of great progress and prosperity.

18. See Lecture IV, note 39.

19. SANTA ANNA, ANTONIO LOPEZ DE (1795-1876).—The famous Mexican general and politician, prominent in the affairs of his country from 1821 to 1856.

20. GUZMAN BLANCO, ANTONIO (1828-1889).—A Venezuelan soldier and politician, known by his admirers as the "Illustrious American." From 1863 to 1888 he directly or indirectly controlled the government of Venezuela. During his various presidential terms he adorned the cities of Caracas with many fine buildings and statues of himself. The vagaries of this eccentric though in some respects able man are described by W. E. Curtiss in his *Venezuela*, (New York, 1896).

21. MALGAREJO, MARIANO (1818-1872).—A Bolivian general and revolutionist. His tenure of power in Bolivia was accompanied by a long series of assassinations and disorders; he represents the most odious type of a revolutionary despot, masquerading under the trappings of republicanism. Characteristic examples of Malgarejo's conduct are given by Prince Louis d'Orleans Bragance in his interesting work, *Sous la croix du sud*, (Paris, 1912), ch. xviii.

22. See Lecture V, note 25.

23. CLEMENCEAU.—*Notes de voyage dans l'Amérique du sud*, (Paris, 1911), ch. vii.

24. ALAMAN, *Historia de Mexico*, (5 vols., Mexico, 1849). *Noticia preliminar*.

25. Tupis.—The Tupi stock included a considerable portion of the aborigines of Brazil, especially those inhabiting the littoral and the lower Amazon Valley. The Tupis were closely related to the Guaranys of Paraguay. The language spoken by these two groups was known by the Portuguese as the *lingua geral*, a sort of *lingua franca*, generally understood throughout Brazil and Paraguay. Cf. D. G. Brinton, *The American Race*, (Philadelphia, 1901), pp. 229-236.

26. Buccan.—A native Caribbean word originally applied to a wooden rack or frame on which meat was smoked or dried by the Caribs; later the term was applied to meat thus prepared. The word "buccaneer" is derived from *buccan*.

27. See Lecture I, note 4.

28. See Lecture I, note 15.

29. The Paraguayan War (1865-1870).—This war had for its object the overthrow of the Paraguayan dictator Lopez by the combined forces of Brazil, Argentina and Uruguay. The result was the complete prostration of Paraguay and the killing off of the larger part of her male population. Of the numerous works on this subject perhaps the most interesting is that of Richard F. Burton, *Letters from the Battlefields of Paraguay*, (London, 1870).

30. See Lecture V, note 3.

31. The Chilian constitution of 1833, which with certain modifications remains the constitution of Chile at the present time, provided for a highly centralized government based on a small electorate. It was by means of this instrument that the Conservatives maintained themselves in power from 1830 to 1861.

32. Here, of course, Dr. Lima refers to the "Valorization Plan of 1906." The best discussion of this extraordinary economic experiment is that furnished by Pierre Denis, in *Le Brésil au XXe siècle*, ch. ix, (Paris, 1910; English translation, London, 1911).

33. Dr. Lima refers, I think, to the work of Arthur Ruhl, *The Other Americans*, (New York, 1908). An illuminating discussion of this "realistic tone" in Argentine letters will be found in the essay of Professor Paul Reinsch, "Some Notes on the Study of South American History," in the *Turner Essays on American History*, (New York, 1910).

34. CLEMENCEAU, *Notes de voyage*, ch. xii.

35. Cf. Lecture V, note 19.

36. TRIANA, SANTIAGO PEREZ (1859-).—Well known Colombian writer and politician. At the Second Hague Conference, in conjunction with General Jorge Holguin, he advanced the doctrine that each of the Signatory Powers of the Hague Convention, or Treaty, shall agree not to make war upon any other without having had recourse to the Hague Tribunal. Among his best known works are *The International Position of the Latin American Races* in Cambridge Modern History, (New York, 1910), vol. XII, p. 690-702, and *Down the Orinoco in a Canoe*, (New York, 1902).

37. DRAGO, LUIS MARIA (1859-).—Noted Argentine writer and statesman. He first attained international prominence by his note of December 29, 1902, to Secretary Hay in reference to the Venezuelan crisis. In this he contended that no collection of government bonds ought to provoke armed intervention and still less territorial occupation. This same doctrine, subsequently known as the Drago Doctrine, was advanced, though unsuccessfully, at the Hague Conference of 1907.

38. Among the many accounts of the marvelous work of Dr. Oswaldo Cruz in the sanitation of Rio de Janeiro, that by Paul Walle in his work, *Au Brésil de l'Uruguay au Rio São Francisco*, (Paris, n. d.), ch. i, is perhaps the most satisfactory in a small compass.

39. SARMIENTO, DOMINGO FAUSTINO (1811-1888).—A distinguished Argentine statesman, educator and author, frequently called the "School-Master President of Argentina." He was appointed minister of public instruction in 1860 and minister of the interior in 1861, and while minister to the United States was elected president of the Argentine Republic for the term 1868-1874. His great work was the improvement and extension of popular education; in this achievement he derived great advantage from his sojourn and studies in the United States. For a brief appreciation of the life and work of Sarmiento see the article by F. N. Noa, *Sarmiento, Statesman and Educator*, in the *Arena*, vol. XXXVI, pp. 390-395 (October 1906). Further particulars are given in the Biography of Sarmiento by Mrs. Horace Mann, incorporated in her translation of Sarmiento's most famous work, *Facundo, or Civilization and Barbarism*, (London, 1868).

40. This idea is further developed in Dr. Lima's *Pan-Americanismo, Bolívar-Monroe-Roosevelt*, (Paris, 1908).

41. DR. ROQUE SAENZ-PENA.—Inaugurated 1910. An account of the previous career of President Saenz-Peña will be found in Blasco Ibañez, *Argentina y sus grandezas*, (Madrid, n. d.), pp. 334 *et seq.*

